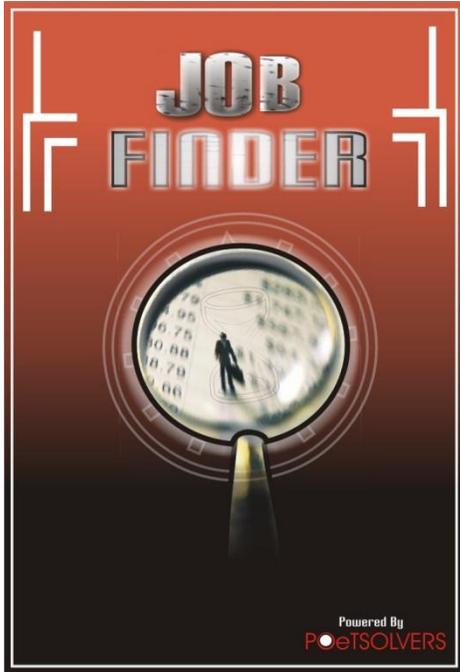




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INTRODUCTION

The word *verbal* is defined as pertaining to words rather than things. Verbal reasoning tests use words, letters and numbers, and require logical reasoning and a reasonable knowledge of the English language. It is also necessary to be familiar with simple manipulations with figures, like addition, subtraction, division and multiplication. The problems of numbers in test of reasoning will not require any advanced knowledge of maths. Instead, they will test how logical you are, that is, how well you reason and think while carrying out simple arithmetic manipulations.

Like non-verbal reasoning tests, verbal reasoning also includes three broad categories, namely Series Completion, Classification (finding the odd man out) and Analogical Relationships, in addition to other types of logical and reasoning questions. As it was with non-verbal reasoning, the time factor in verbal reasoning is very crucial. Each question has to be answered quickly. You should normally devote not more than 30 seconds to each question. Here too as in verbal reasoning, all questions carry equal marks. In this section, various types of verbal reasoning tests have been described. Once you are familiar with what and how you are required to answer, attempt the practice tests in one sitting, time yourself, and aim at a target of 25 to 30 questions to be answered in less than 30 minutes. You should soon achieve this speed if you follow the illustrations and understand the methods of solving each type of question as given in the illustrations, practice questions and practice tests. Your test of reasoning paper may comprise 50 to 60 per cent of verbal type of reasoning questions.

Before dealing with the various types of verbal reasoning questions appearing in competitive examinations, familiarize yourself with the following broad classification of verbal reasoning tests:

1. Series Completion
2. Classification (Odd Man Out)
3. Analogical Relationship

4. Coding and Decoding
5. Directional Reasoning
6. Logical Diagrams and Relationships

SERIES COMPLETION

In verbal series, words, letters or digits are given in a specific sequence/order and you are asked to find out the next word, letter or digit to complete the given series. There may be questions in which you have to identify the last one or two letters or digits to continue the series or to find a missing letter or digit in between the given letters and numbers to continue the sequence followed in the question. As it is, there is no set pattern and each question may follow a different pattern or sequential arrangement of letters or digits, which you have to detect using your common sense and reasoning ability. Go through the following illustrations and accompanying explanations to familiarize yourself with the different types of questions that can appear in your examination.

There are mainly three types of verbal series completion questions, namely

1. Letter Series
2. Number Series
3. Letter and Number Mixed Series

Letter Series

In the letter series, you are given some letters which follow a particular sequence or order. You have to detect the pattern from the given letters and find the missing letter or the next letter to continue the pattern

Illustrations

Directions: In the following questions, you are given some letters which follow a set pattern. Under each series, there are four answer choices, marked (a) to (d). Find the answer choice that can replace the question mark in the letter series.

1. J L N P R T ?

(a) S (b) U (c) V (d) W

2. A D I P ?

(a) R (b) T (c) U (d) Y

3. F I M P ?

(a) V (b) Q (c) T (d) R

4. A C F J ?

(a) K (b) M (c) N (d) O

5. M P K R I T ?

(a) U (b) V (c) C (d) G

ANSWERS:

1. (c) V 2. (d) Y 3. (c) T 4. (d) O 5. (d) G

EXPLANATIONS

1. (c) V: The series is formed by skipping one letter each time J (K) L (M) N (O) P (Q) E (S) T (U) V. Letters in brackets are the ones skipped.

2. (d) Y: It is an alphabetical sequence where each letter is separated from the preceding one by 2, 4, 6 and 8 letters. A (BC) D (EFGH) I (JKLMNO) P (QRSTUVWXYZ) Y.

3. (c) T: Each letter is separated by two and three letters alternately F (GH) I (JKL) M (NO) P (QRS) T.

4. (d) O: It is an alphabetical progression where C is the second letter after A, F is the third letter after C, J is the fourth letter after F, and O is the fifth letter after J.

5. (d) G: It is an alphabetical progression where each letter is separated from the following one by 2, 4, 6, 8, 10 and 12 letters, alternately

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forwards and backwards M (NO) P (ONML) K (LMNOPQ) R
(QPONMLKJ) I (JKLMNOPQRS) T (SRQPONMK LJIH) G.

Practice Questions

Directions: The following questions are based on letter series, each having a different pattern. Study the series carefully to determine the order (pattern). Select the answer from the choices given below to continue the series.

1. D I L Q T Y B G ?

(a) H (b) I (c) O (d) P (e) J

2. X U S P N K I ?

(a) J (b) K (c) M (d) F (e) O

3. D F I M R ?

(a) S (b) U (c) U (d) X (e) Z

4. B D G I L N ?

(a) O (b) Q (c) S (d) U (e) Q

5. D I L Q T Y B G ?

(a) H (b) J (c) R (d) J (e) Q

6. J E Z U P J ?

(a) K (b) M (c) O (d) P (e) K

7. H V G T F R E P D N ?

(a) K L (b) L M (c) M N (d) N O (e) C L

8. U B I P W ?

(a) V (b) F (c) X (d) M (e) D

9. T S Q N J ?

(a) S (b) E (c) K (d) L (e) N

10. S P L G ?

(a) H (b) I (c) K (d) A (e) H

11. B E I N T ?

(a) R (b) S (c) U (d) A (e) V

12. B F K Q ?

- (a) R (b) S (c) W (d) X (e) C

13. R T P R N P ?

- (a) Q (b) L (c) S (d) F (e) K

14. W T P M I F B ?

- (a) W (b) P (c) F (d) Y (e) V

15. X W V U T S ?

- (a) R (b) T (c) E (d) X (e) P

Answers and Explanations

1. (e) After D, 4 letters are skipped and I follows. After which 2 letters are skipped. The trend follows alternately.

D(EFGH) I (JK) L (MNOP) Q (RS) T (UVWX)Y(ZA)B(CDEF)G (HI) J

2. (d) After X, 2 letters are skipped and U follows, after which I letter is skipped and S follows. In this manner after every letter, letters are skipped in the order of 2 and 1 alternately.

3. (d) Letters are skipped in the order as 1, 2, 3, 4, 5

D (E) F (GH) I (JKL) M (NOPQ) R (STUVW)

1 2 3 4 5

4. (b) Letters are skipped I and 2 alternately.

B (C) D (EF) G (H) I (JK) L (M) N (OP) Q

5. (b) Four and 2 letters are skipped alternately

D (EFGH) I (JK) L (MNOP) Q (RS) T (UVWX) Y (ZA) B (CDEF) G (HI) J

6. (a) Every fifth letter backward from J.

7. (e) 2 alternating series, one going backwards from H and one going forwards with every 2nd letter from V.

8. (e) Every seventh letter alphabetically.

9. (b) The interval increases by one each time as we move backwards.

TS(R) Q (PO) N (MLK) J (IHGF) E

10. (d) The letters go back by 2, 3, 4, 5, 6 in that order.
 S(RQ) P(OMN) L (KLJI) G(FEDCB)
 2 3 4 5
11. (d) Letters to up by 2, 3, 4, 5, 6 - in that order
 B (CD) E (FGH) I (JKLM) N (OPQRS) T (UVWXYZ) A
 2 3 4 5 6
 Circular continuation follows, i.e. after Z, we again begin with A.
12. (d) Skipped letters go up by 4, 5, 6, 7, 8
 B (CDE) F (GHIJ) K (LMNOP) Q (RSTUVW)X
13. (b) Move 2 letters forward and 4 letters backwards alternately.
14. (d) Skip 2 and 3 steps back in the alphabetical order alternately
 W (VU) T (SRQ) P(ON) M (LKJ)I (HG) F (EDC) B B (AZ) Y
15. (a) Two letters are skipped alternately.
 X (YZ) W (XY) V (WX) U (VW) T (UV) S (TU) R (ST)

Hints to Solve the Letter Series

There are no set rules. In each case you have to discover the pattern adopted. There can be omission of letters in an order, for example, one each time. Letters may also be omitted in an increasing/decreasing order, which may be direct increase or decrease, for example, one each time, two each time, three each time, and so on. There can also be alternate order, such as first one letter is skipped, then two letters, then three letters, and so on. There may also be alternate sequences, for example, first one letter and then two letters are skipped alternately. These are some of the typical patterns that you will encounter. Besides these, there may be several other patterns in the letter series.

The easiest way to tackle letter series questions is to be wary of the position of the alphabet and its position number in both forward and backward sequences.

For instance,

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A	B	C	D	E	F	G	H	I	J	K	L	M	... and so on
1	2	3	4	5	6	7	8	9	10	11	12	13	(forward)
26	25	24	23	22	21	20	19	18	17	16	15	14	(backward)

Also remember that to continue the series after Z, we again begin with A. In other words, the sequence is kept in a circular order.

Some skipping patterns are described below:

(i) Regular order: The number of letters skipped remains the same. As in illustration I above, in which each time only one letter is skipped.

(ii) Increasing order: Each time the number of letters skipped increases in a given pattern. For example,

A C F J Q ?

ANSWER: U

Here, each time the number of letters skipped increases by one.

(iii) Decreasing order: Each time the number of letters skipped decreases in a given pattern. For example,

A G L P S ?

ANSWER: U

Here the number of letters skipped decreases by one each time, that is, first 5, then 4, then 3, and so on.

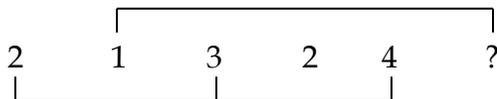
(iv) Interlinked series: For example,

A D F J M R ?

ANSWER: V

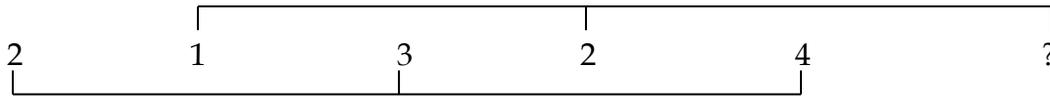
Here, there are two interlinked series. Recall the numbered, alphabet table and write down the number of letters skipped.

You will realize that there are two interlinked series:



VERBAL REASONING TESTS

Here, the first series follows the pattern 2, 3, 4 and the second series



1, 2, ?.

Therefore, to replace the question mark, three letters should be skipped.

To get the answer, skip three letters after R; that is R (s t u) V. The letter V will replace the question mark.

There may be several other such patterns for forming a letter series. With a little practice, you will be able to determine the pattern involved. Some more illustrations are given here to familiarize you with these types of questions.

1. M T W T F S?

2. J F M A M J?

ANSWERS: 1) S 2) J

In question 1, the first letter of the day of the week forms the series, that is M(onday) T(uesday) W(ednesday) T(hursday) F(riday) S(aturday). The next letter to replace the question mark (?) will be again S, representing Sunday.

In question 2, the first letter of the name of the month is given, namely J(anuary) F(ebruary), M(arch), A(pril), M(ay) J(une). After June, therefore, we will have J again, representing July. Therefore, the next letter in this series will be J.

Practice Questions

Directions: Supply the right letters in place of the question marks in the following questions

1. A C F J O?

(a) P (b) Q (c) U (d) V (e) L

2. A D E H I L ? ?

(a) MP (b) MN (c) MO (d) MQ (e) NM

3. A Z B Y C X D ?

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- (a) E (b) W (c) R (d) L (e) P
4. CD HI MN ??
- (a) OS (b) RS (c) OP (d) PQ (e) ST
5. AU BY CZ ??
- (a) BC (b) KL (c) MN (d) PN (e) DX
6. AGLPS ?
- (a) X (b) Y (c) W (d) U (e) Z
7. RUXAD ?
- (a) E (b) F (c) G (d) I (e) H
8. CFILO?
- (a) P (b) Q (c) R (d) S (e) T
9. EGJ KOQ?
- (a) S (b) R (c) U (d) V (e) T
10. BJQWBF?
- (a) F (b) G (c) H (d) I (e)E
11. IMQUXB?
- (A) C (b) D (c) F (d) G (e) E
12. CEIKOQ?
- (a) R (b) S (c) T (d) U (e) V
13. ZXVTRP?
- (a) Q (b) R (c) S (d) M (e) N
14. XUSPNK?
- (a) I (b) L (c) M (d) Q (e) Y
15. TQNKH?
- (a) F (b) L (c) S (d) E (e) R

Answers and Explanations

1. (c) Letters follow alphabetical order and the letters skipped in between increase in number in an ascending order, each time.

A(B) C (DE) F (GHI) J (KLMN) O (PQRST) U
 1 2 3 4 5

2. (a) Alphabets are grouped in rows of four (ABCD, EFGH...) and the initial and the final letter of each row are taken to form the series.

3. (b) Letter sets are formed by taking a letter from forward order (A-Z) and one letter from backward order (Z-A).

4. (b) After a set of two consecutive letters, three letters are skipped, that is
 CD (EFG) HI (JKL) MN (OPQ) RS

3 3 3

5. (e) Alphabet blocked into a 4 letter row (4 horizontally in the row) and 6 (vertically in the row, except rows 2 and 3 which have 7 letters). Vertically, row A ends in U, row B ends in Y, row C ends in Z and obviously the last row starting from D will end in X.

6. (d) Letters follow alphabetical order. Skipping is done in decreasing order.

A (BCDEF) G (HIJK) L (MNO) P (QR) S (T) U
 5 4 3 2 1

7. (c) Two intervening letters are skipped in the alphabetical order:

R (ST) U (VW) X (YZ) A (BC) D (EF) G

As explained earlier, circular continuity is maintained, that is, after Z, we come back to the A B C D order.

8. (c) Two consecutive letters are skipped after each letter.

9. (e) One letter and two letters are skipped alternately.

10. (d) Letters maintain alphabetical order and the number of letters skipped increases by one each time. First 7 letters are skipped, then 6, 5, 4, 3 and so on.

11. (e) Three and two letters are skipped alternately.

12. (d) Letters are skipped in the order of 1 and 3 alternately.

C (D) E (FGH) I (J) K (LMN) O (P) Q (RST) U

13. (e) Backward order of letter is taken, skipping one letter alternately, that is Z
(Y)X (W) V (U) T (S) R (Q) P (O) N
14. (a) Backward order is taken (Z-A). Letters are skipped in the order of 2 and 1
alternately.
X(WV) U (T) S (RQ) P (O) N (ML) K (J) I (HG) F and so on.
15. (d) Backward order is followed skipping 2 letters alternately.
T (SR) Q (PO) N (ML) K (JI) H (GF) E

Formats

Letter series questions may be in various formats, for example:

Illustrations

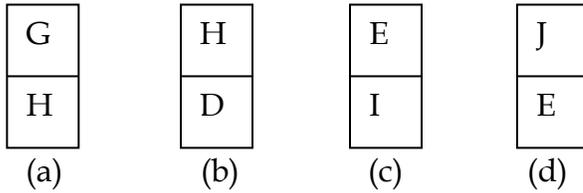
1. Which letter will come in the blank square?

H	M	C
J	N	F
L	O	

- (a) P (b) N (c) H (d) I

2. Which two letters will come in place of the question marks?

A	G	?	K	I
E	C	?	G	M



ANSWER: 1. (d) 2. (c)

Explanations

1. Working downwards in vertical columns, the first column has breaks of one letter. In the second column, there are no breaks. In the third column, two letters are skipped.

(a) H (I) J (K) L

(b) M N O

(c) C (DE) F (GH) I

2. Here the letters zigzag alphabetically from top left to bottom right with a gap of one letter each time:

A (B) C (D) E (F) G (H) I and

E (F) G (H) I (J) K (L) M

Practice Questions

Directions: In each of the following questions, there is a series of letters/group of letters in accordance with a pattern. Discover the pattern involved in each question and select the correct answer from the choices given,

1. AD EH IL -- QT UX

(a) AY (b) VB (c) CW (d) DX (e) MP

2. AY BZ CW --

(a) KF (b) OH (c) MN (d) IK (e) DX

3. BC FG JK -- RS VW

(a) LM (b) OP (c) QR (d) NO (e) ST

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4. CD GH KL OP ST --

- (a) RS (b) QR (c) GH (d) WX (e) RN

5. XD WC -- YA

- (a) XY (b) CD (c) OP (d) WV (e) ZB

6. AI BJ CK --

- (a) LM (b) GH (c) QR (d) SE (e) DL

7. AM BN EI FJ CO GK DP --

- (a) PQ (b) QR (c) QT (d) HL (e) HG

8. A C B E C G D ??

- (a) MN (b) LM (c) IE (d) GH (e) XY

9. Z W S P L I E ?

- (a) D (b) F (c) G (d) B (e) K

10. A E J

P T ?

- (a) U (b) V (c) R (d) W (e) X

11. AC EG BD FH IK -

- (a) LM (b) OP (c) IJ (d) JL (e) JK

12. C G K O S

A E I M Q

E I M Q ?

- (a) W (b) X (c) V (d) U (e) M

13. A D N M

C F J O

B E I N

G I M ?

- (a) P (b) Q (c) R (d) S (e) T

14. A D C F

C F E H

E H G K

OR??

- (a) LK (b) MN (c) ST (d) QT (e) XY

15. F J N R V

E H K N Q

I L O R U

K N Q ? W

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

Answers and Explanations

1. (e) The alphabets are arranged in a block to 4 letter rows A-D, E-H, I-L, M-P, Q-T, U-X and YZ. The series comprises of the initial and the final letter of the rows arranged as above.
2. (e) Initial and final letters of vertical rows are taken from 4 letter rows of alphabet as made for Question 1.
3. (d) The middle pair of letters is taken from the 4 letter block.
4. (d) Last pair of letters is taken from the 4 letter block,
5. (e) Initial and last letter taken from downwards to upwards in the 4 letter block.
6. (e) Vertically 1st and 3rd letter of the row is taken skipping one in between.
7. (d) Vertically 1st and 4th letter of the row is taken skipping two letters in between.

To fully understand the basis of these questions, make the 4 letter block of the alphabet and the above answers will be explained clearly by a careful scrutiny of the block

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 - -

8. (c) There are 2 alternate series each from A and from alternate letter C.
9. (d) Skip 2 and 3 steps backwards in the alphabetic alternately.
10. (d) From A to J. there are 10 letters (both inclusive) 3 of which are written in the question and between A to J. seven letters are skipped. Based on this, between P to ? there should be 10 letters, out of which 2 are written (P and T), skipping only 8 letters. Hence counting from P to ?, based on A-J pattern, 8 letters are missing and therefore, after P, W should come to form the series.
11. (d) This question is based on the 4 letter row as in questions 1 to 7. In this series, first AC is taken (omitting B) and BD. In the same, manner, AG and FH and so on.
12. (d) In the first row between C and S three letters each are skipped, i.e. C(DEF) G (HIJ) K (LMN) O (PQR) and S. Same pattern is followed in rows A-Q and E- ?
13. (c) A careful analysis of rows A to M reveals that 2, 3, 4, letters are consecutively skipped. For instance, A (BC) D (EFG), H(IJKL). Same order is followed in other rows C-O, B-N and F-?
14. (d) Study row A-F. Letters are skipped and repeated as follows:
 A (BC) D C (DE) F
 C (DE) F E (FG) H
 E (FG) H G (IJ) K
 O (PQ) R Q (RS) T Hence the answer = QT.

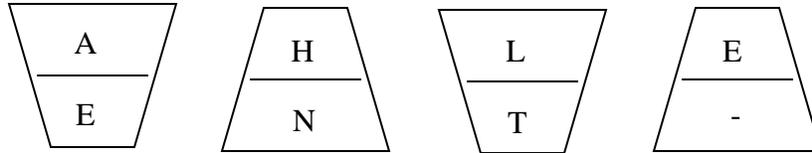
15. (b) The series is made by the following scheme:

F (3)	J (3)	N (3)	R (3)	V
E (a)	H (2)	K (2)	N (2)	Q
I (2)	L (2)	O (2)	R (2)	U
K (2)	N (2)	Q (2)	T(2)	W

Based on the above scheme, T replaces the ? mark in the question.

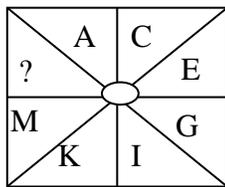
ILLUSTRATIONS

1. Which letter will come in the bottom portion of the last figure?



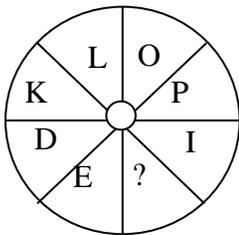
- (a) U (b) V (c) W (d) O

2. Which letter will replace the question mark in the following design?



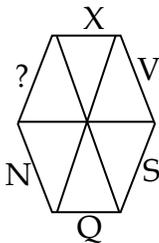
- (a) B (b) W (c) O (d) V

3.



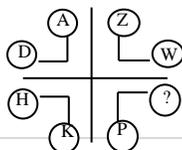
- (a) G (b) U (c) V (d) H

4.



- (a) Y (b) W (c) L (d) M

5. Which letter will replace the question mark?



- (a) V (b) O (c) S (d) R

Answers and Explanations

1. (d) O: The interval between the top and the bottom letters in each domino increases by 4, then 6, 8 and finally by 10 steps.
A (BCD) E, H (IJKLM) N, L (MNOPQRS) E (FGHIJKLMN) O
2. (c) O: (alternate letters in sequence)
A (B) C (D) E (F) G (H) I (J) K (L) M (N) O
3. (d) H: The pattern is KL (MN) OP (top) DE (FG) HI (bottom)
4. (d) L: (skip one letter, then two to form the series)
5. (c) S: (an interval of two letters exists between each quadrant, going clockwise)

Practice Questions

Directions: The following questions are framed on letter sequences. In each part of the series, there is a combination of capital and small letters, with certain letters skipped/and/or repeated. Find the correct answer.

1. ABC abc DEF – ?
(a) ghi (b) GHI (c) ABC (d) def
2. ACF acf G ??
(a) IL gi l (b) JL gi l (c) ILgi l (d) LL gl i
3. ZXV zxv U
(a) ust UST (b) usqo (c) USQO (d) USRTrs
4. acce ACCCE ??
(a) GJJJK fjijk (b) GIIIK giik
(c) GIIIIK ghhhk (d) GIIIK Giiik
5. AGMS agms ??
(a) ABCD abcd (b) BHNT bhnt
(c) BHNT bhnt (d) bhnt BHNT

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6. aa bbb cccc ??

(a) ddjjj

(b) dddjj

(c) dddddd

(d) DDDDD

7. aH bB cd e?

(a) e

(b) f

(c) g

(d) G

8. mNNNoPPq ??

(a) rR

(b) qR

(c) RR

(d) rr

9. dd jjj UUU x

(a) xx

(b) Xx

(c) xX

(d) yz

10. AG ms BH nt CI ??

(a) uy

(b) ou

(c) jk

(d) uo

11. a cc eee

(a) f

(b) ff

(c) gggg

(d) GGGG

12. a f g l m ?

(a) nn

(b) op

(c) R

(d) r

13. bb nn cc oo ??

14. a D g J m P

(a) sp

(b) sP

(c) sV

(d) Sv

15. mm pp s ?

(a) Vv

(b) vv

(c) ST

(d) pp

Answer: Explanation not required. A careful observation and analysis will give correct answers.

1. (d)

2. (a)

3. (b)

4. (b)

5. (c)

6. (c)

7. (b)

8. (c)

9. (a)

10. (b)

11. (c)

12. (d)

13. (c)

14. (c)

15. (b)

Number series

In number series, instead of letters, numbers or digits are used. Here again, there are no specific rules and by just following the illustrations given here, you will be able to detect the patterns/sequences involved.

Number series require simple manipulation of numbers, for example:

1. Skipping the numbers in some set order.
2. Addition, subtraction, multiplication or division of numbers to get the next number in the series.
3. Logical transposition of numbers.
4. Increase or decrease in numbers in a specific pattern/order.

All you have to do is to determine the pattern followed by careful examination of the numbers in a given row, and the manner of progression.

Illustrations

Directions: Select, from the answer choices given under each number series, an appropriate number to replace the question mark and continue the pattern being followed by other numbers in the series.

1. 2, 7, 14, 23, ?, 47
 (a) 30 (b) 34 (c) 39 (d) 44
2. 5, 10, 15, 25, 40, ?
 (a) 45 (b) 50 (c) 60 (d) 65
3. 3, 12, 48, 192, ?
 (a) 202 (b) 301 (c) 768 (d) 689
4. 48, 24, 72, 36, 108, ?
 (a) 110 (b) 115 (c) 121 (d) 54
5. 1, 3, 7, 15, 31
 (a) 38 (b) 49 (c) 63 (d) 42

Answers and Explanations

1. (b) 34: The series progresses by adding 5, 7, 9, 11, 13 and so on in successive steps, which gives the next number.
 $2 + 5 = 7, 7 + 7 = 14, 14 + 9 = 23$ and $23 + 11 = 34$
2. (d) 65: Each term is the sum of the two previous numbers.
3. (c) 768: Multiply each term by 4 to get the next number.
4. (d) 54: Divide by 2 and multiply by 3 alternately.
5. (c) 63: Numbers increase in steps of 2, 4, 8 and so on.

Practice Questions

Directions: Figures given in each question follow a set pattern. Determine the pattern and find the correct answer.

1. 9 15 23 33 ?

- (a) 44 (b) 36 (c) 38 (d) 45

2. 12 8 14 6 16 ?

- (a) 18 (b) 32 (c) 5 (d) 4

3. 9 6 16 10 30 18 ? 34

- (a) 36 (b) 60 (c) 58 (d) 60

4. 68 81 96 ? 132

- (a) 105 (b) 110 (c) 130 (d) 113

5. 2 5 9 ? 20 27

- (a) 48 (b) 12 (c) 14 (d) 24

6. 30 23 17 12 ? 5

- (a) 6 (b) 7 (c) 8 (d) 9

7. 10 18 24 ?? 130 254 258

- (a) 32 (b) 60 (c) 68 (d) 66

8. 18 10 6 4 3 ?

- (a) 8 (b) 4 (c) 3.5 (d) 2.5

9. 6 11 18 27 38 ?? 66

(a) 58 (b) 54 (c) 51 (d) 59

10. 1 8 27 ?

(a) 37 (b) 47 (c) 57 (d) 64

11. 4 10 22 46 ??

(a) 56 (b) 66 (c) 76 (d) 94

12. 4 5 7 ? 19

(a) 8 (b) 9 (c) 10 (d) 11

13. 5 8 12 17 23 ? 38

(a) 26 (b) 28 (c) 30 (d) 29

14. 5 9 16 29 54 103 ?

(a) 102 (b) 94 (c) 103 (d) 200

15. 4 9 20 43 90 ? ?

(a) 180 (b) 182 (c) 179 (d) 185

Answers and Explanations

1. (d) The series increases by 6, then 8, 10 and finally by 12.
2. (d) Two alternating series increasing in twos from 12 and reducing in twos from 8.
3. (c) Two alternate series, in each of which figures are doubled and the result reduced by 2 to form the next figure.
4. (d) The series increases by steps 13, 15, 17, 19.
5. (c) The interval increases by 1 each time.
6. (c) The interval reduces by 1 each time.
7. (d) Double each figure and subtract 2 each time.
8. (d) Each figure is obtained by adding 2 to the previous one and then dividing it by 2.
9. (c) Square the numbers 2, 3, 4, 5 respectively adding 2 each time.
10. (e) Cube the numbers 1, 2, 3, 4 respectively.

11. (d) Each number is twice the previous one plus 2.
 12. (d) Each number is twice the previous one minus 3.
 13. (c) Starting from the first figure, double the figure and 3, 4, 5, 6, 7, 8 e.t.c., i.e. increase each time by 3, 4, 5 and so on.
 14. (d) Multiply each number by 2 and reduce 1, 2, 3, 4 and so from each figure, e.g. $5 \times 2 = 10 - 2 = 8$
 15. (d) Double each figure and add 1, 2, 3, 4, and so on, e.g. 4 doubled = $8+1 = 9$, then 9 doubled = 18 , add 2 = 20 and so on.

Other formats

Like letter series, number series may also be in different formats. Some illustrations given below will familiarize you with the most common formats of number series appearing in competitive examinations.

Illustrations

Directions: Select from the answer choices given against each question an appropriate number to replace the question mark.

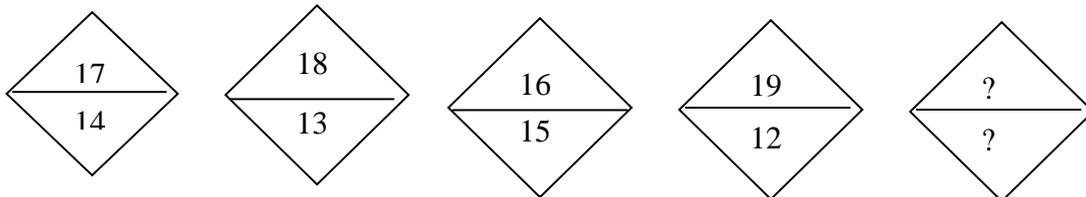
1.

4	3	2	9	8
5	2	?		27

- (a) 5 (b) 6 (c) 11 (d) 8

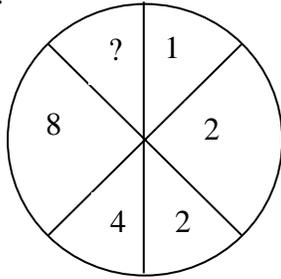
ANSWER: (D) 8

2.



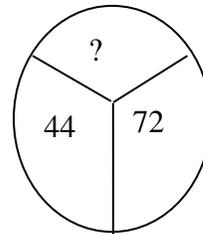
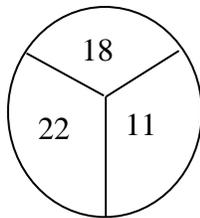
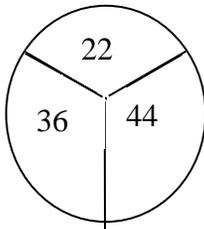
- (a) $\frac{20}{13}$ (b) $\frac{21}{25}$ (c) $\frac{15}{16}$ (d) $\frac{17}{18}$

3.



- (a) 10 (b) 15 (c) 32 (d) 12

4.



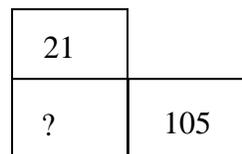
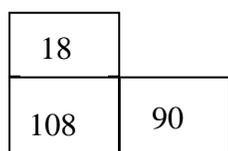
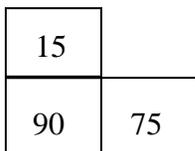
- (a) 44 (b) 55 (c) 80 (d) 88

5.

7	21	8
17	?	5
12	1	23

- (a) 14 (b) 18 (c) 3 (d) 13

6.



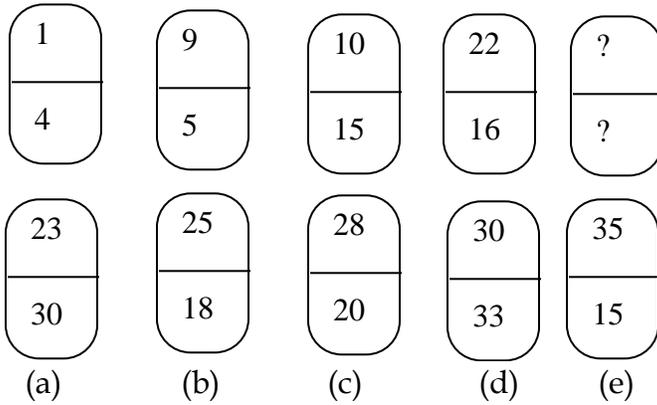
- (a) 78 (b) 126 (c) 140 (d) 132

7.

19	25	32
14		?
10		49
7		

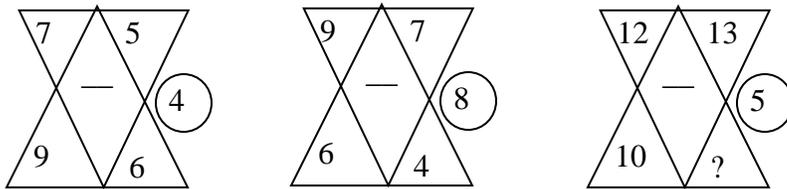
- (a) 36 (b) 40 (c) 45 (d) 42

8.



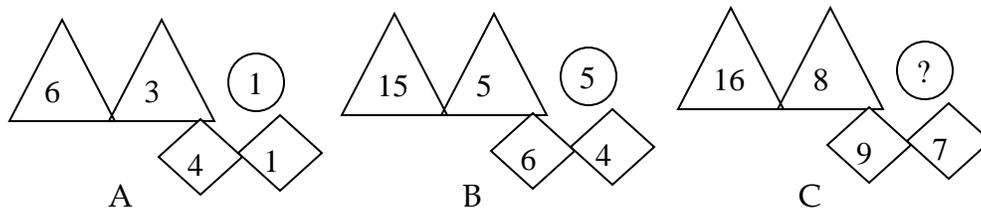
- (a) (b) (c) (d) (e)

9.



- (a) 7 (b) 3 (c) 5 (d) 8

10.



- (a) 5 (b) 6 (c) 4 (d) 3

Answers and Explanations

1. (d) 8. The terms on the bottom row are formed by taking half the product of those above it and subtracting 1.
2. (c) $15/16$ In the top triangle, the progression is plus 1, minus 2, plus 3, minus 4 and so on.
In the bottom triangle, the progression is minus 1, plus 2, minus 3, plus 4 and so on.
3. (c) 32. Each number is obtained by multiplying the preceding number by one that follows:
 $1 \times 2 = 2$; $2 \times 2 = 4$; $2 \times 4 = 8$; $4 \times 8 = 32$
4. (d) 88. The numbers in the second circle are those of the first divided by 2. Those in the third circle are those of the first multiplied by 2.
5. (a) 14. The sum of all the number in the square added together is 36.
6. (b) 126 The bottom left number is bottom right number plus top number, i.e. $105 + 21 = 126$.
7. (b) 40. The series increase by 3, 4, 5, 6, 7, 8, and 9
8. (a) $23/30$ The series goes alternately from top to bottom. That starting on 1 increases by 4, 5, 6 and 7; that from 4 by 5, 6, 7, and 8.
9. (c) The sum of the top numbers divided by the difference between the bottom numbers, gives the figure in the circle.
10. (c) 4 Divide the difference between the triangles by the difference between the diamonds to get the number in the circle.

Letter-number mixed series

In another type of series, both letters of alphabet as well as numerical digits are used. These series are also formed on similar patterns as individual letter and number series explained earlier.

Illustrations

Directions: Choose from the answer choices an appropriate number- letter pair to replace the question marks (?)

1. C-2, E-3, G-4, I-5, ??
 (a) H-6 (b) J-8 (c) K-6 (d) L-7
2. D-4, G-7, J-10, M-13, ??
 (a) N-14 (b) O-15 (c) P-11 (d) P-15
3. D-23, F-21, H-19, J-17, ??
 (a) K-18 (b) M-18 (c) O-21 (d) L-16
4. K- 11, M-13, P-16, T-20, ??
 (a) U-21 (b) V-22 (c) Y-25 (d) W-25
5. C³, F⁶, I⁹, L¹², ??
 (a) O¹³ (b) Q¹⁷ (c) P¹⁵ (d) O¹⁵

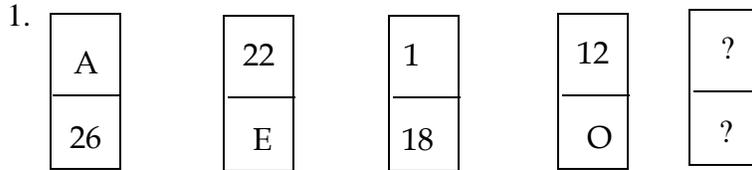
Answers and Explanations

1. K-6 The letters have a gap of one letter. The numbers increase by one each time.
2. P-11 Here the relation between letters and numbers is the position number of the letter in alphabetic order. Letters follow the sequence of D (EF) G (HI) J (KL)M (NO)P and numbers represent their position numbers in the alphabetic order.
3. (d) L-16 Here the numbers represent the position of the alphabet as in reverse sequence, i.e. Z = 1, Y = 2.... The letters have a gap of one letter, that is, D (E) F (G) H (I) J and so on.
4. (c) Y-25 Letters follow the sequence of plus 1, 2, 3, 4, that is, K (L) M (NO) P (QRS) T (UVWX) Y and the numbers represent their respective alphabetic position.

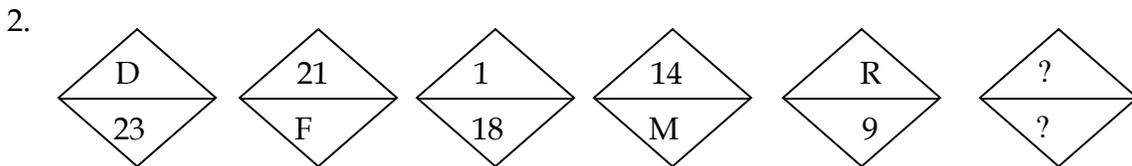
5. (a) O¹³ Letters follow the sequence C (DE) F (GH) I (JK) L (MN) O and the numbers are their alphabetic position number.

Other patterns

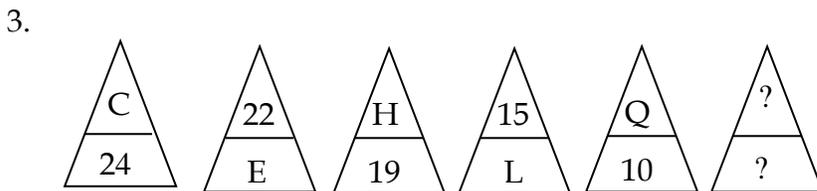
Directions: In the following questions, select from the answer choices an appropriate letter-number pair to replace the question marks and continue the series.



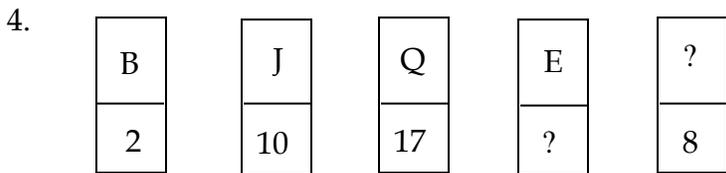
- (a) 13/P (b) 15/Q (c) U/6 (d) 6/U



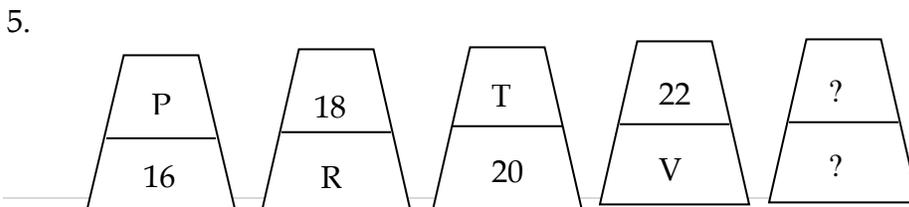
- (a) S/10 (b) 3/X (c) U/4 (d) 6/U



- (a) 15/R (b) 4/W (c) S/11 (d) 4/X



- (a) H and 5 (b) F and 6 (c) H and 6 (d) 5 and H



VERBAL REASONING TESTS

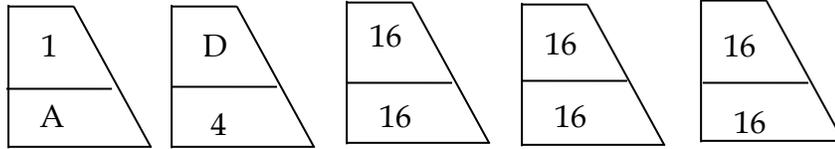
(a) U/15

(b) M/13

(c) X/24

(d) W/24

6.



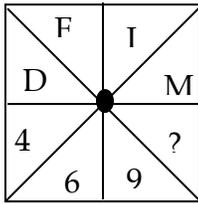
(a) J/10

(b) M/13

(c) P/16

(d) P/11

7.



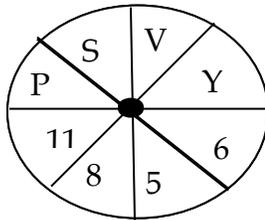
(a) 10

(b) 13

(c) 12

(d) 14

8.



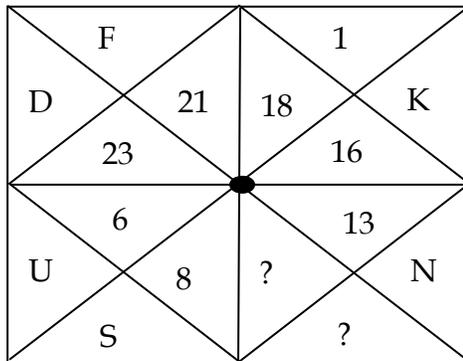
(a) 3

(b) 7

(c) 2

(d) 3

9.



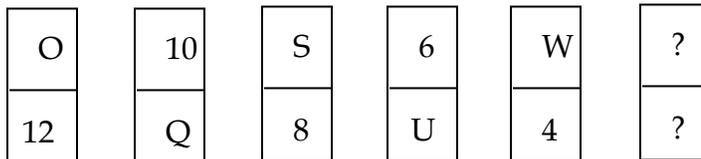
(a) 9/R

(b) 11/P

(c) 13/Q

(d) 10/V

10.



Answers and Explanations

1. (c) U/6 The vowels move from the numerator to the denominator. The numbers are their respective positions in the backward sequence of alphabets, that is, Z = 1, A = 26, E = 22, I = 18, O = 12, U = 6.
2. (b) 3/X Letters move from numerator to denominator, and have gaps of -1, -2, -3, -4, -5, and -6, that is, D (E) F (GH) I (JKL) M (NOPQ) R (STUVW) X. The numbers are their position numbers backwards, that is, D = 25, F = 21, I = 18, M = 14, R = 9, X = 3.
3. (b) 4/W The letters move from the numerator to the denominator. Each successive letter is obtained by skipping 1, 2, 3, 4 and 5 letters. The numbers represent their position numbers in backward sequence.
4. (a) H and 5. The numbers represent the position in the alphabetical system of the letters above.
5. (c) X/24 The letters follow the sequence P (Q) R (S) T (U) V (W) X and the numbers represent their positions in the alphabetical system.
6. (c) P/16 The numerical sequence is formed by the squares of 1, 2, 3, and 4. The numbers also mark the position in the alphabetical system of the letters A, D, I and P.
7. (b) 13. The letters on the top portion of the square follow the sequence D (E) F (GH) I (JKL) M and the numbers represent their alphabetic position.
8. (c) 2. The letters in the upper half of the circle follow the sequence P (QR) S (TU) V (WX) Y and the numbers represent their respective positions in backward sequence.
9. (b) 11/P The letters progress in clockwise position starting from D and the next letter is obtained by following the skipping pattern: D (E) F

(GH) I (J) K (LM) N (O) P (QR) S (T) U. The numbers are their positions in backward order.

10.(b) 2/Y The letters follow the skipping pattern O (P) Q (R) S (T) U (V) W (X) Y. The numbers represent their alphabetic positions in backward sequence.

VERBAL CLASSIFICATION

These questions test your ability to observe differences and similarities among various items. Verbal classification, also known as Odd man out test, consists of five or six terms or words. Of the given terms, one is different from the others. In other words, except one item or term, all others have some sort of similarity. You have to identify the item that is different from the rest, or is the odd man out. First, you have to determine the similarity of characteristics in the given terms and then identify the one which does not have the same characteristics. Verbal classification questions usually comprise:

- (a) Letter Classification
- (b) Number Classification
- (c) Word/item Classification

Letter Classification

Here you are given letters of alphabet in groups or individual letters. You have to identify the letters or group of letters that is different from the other given terms. This may include:

- (i) Relationship based on position of letters
- (ii) Small and capital letter relationship
- (iii) Vowel and consonant relationship
- (iv) Repetition and skipping pattern relationship
- (v) Letter formation relationship

Illustrations

Directions: In each of the following questions, letters/group of letters are given. While four of them have some similarity, one is different from the rest. Find the odd man out.

- | | (a) | (b) | (c) | (d) | (e) |
|----|-------|-------|-------|-------|-------|
| 1. | BD | CE | DF | EG | FG |
| 2. | AZ | BY | CX | DU | EV |
| 3. | Ace | Fgh | Kmo | Oqs | Tvx |
| 4. | AbcdE | IfghO | ApqrL | UlmnE | EwxyO |
| 5. | W | X | V | T | B |
| 6. | P | D | B | T | R |

Answers and Explanations

- (c) FG. Every second letter is taken to make the pairs. In (e), this relationship does not exist.
- (d) DU. Each pair consists of one letter from the beginning and one letter from the end, except in (d).
- (b) FgH. Each group has one capital letter and two small letters and in between each letter, one letter is skipped, e.g. A (b) c (d) e and so on except in (b) where there are two capital letters.
- (c) ApqrL. Each group of letters consists of two vowels, one each in the beginning and in the end. In between two vowels, three letters in alphabetic sequence are given. In (c), there is only one vowel.
- (e) B. All letters are formed by straight lines, except B, which has a straight line and two curves.
- (d) T. All letters are formed by both straight lines and curves, except T, which is formed of only straight lines.

Practice Questions

Directions: In each of the five groups of letters, one is different from others. Tick the odd one out.

	(a)	(b)	(c)	(d)	(e)
1.	aBC	BaC	abC	BCa	CBa
2.	KMpS	BKXz	PiMO	PHet	OIsT
3.	LMNO	APBQ	EUFV	GWHX	CRDT
4.	PaKe	PiuS	PoKe	PoeK	PrtK
5.	SSTO	TTOU	OOTU	USTO	UUTS
6.	BATU	ZYST	SMPQ	FEGH	IJSO
7.	aabC	ccdE	eefG	ffiH	gghI
8.	TSRQ	MLKJ	YXWV	NMLK	HGFD
9.	abcD	EFgh	RStu	MNop	IJkl

Answers and Explanations

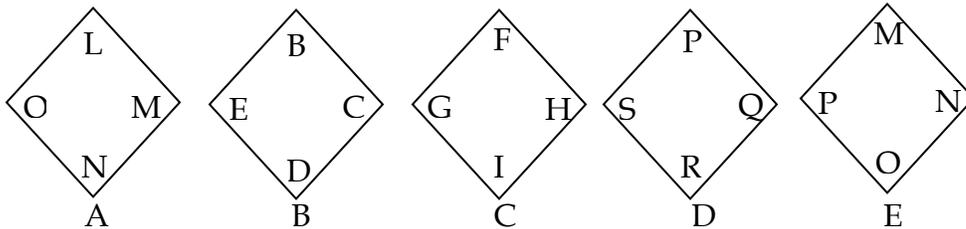
1. (c) In this, there are 2 small letters. In others, only one letter is small.
2. (e) In this group, there are 2 small letters whereas in others, there is only one small letter.
3. (a) Each set has an alternate letter relation, i.e.
(a) LNMO (b) APBQ (c) EVFV (d) GWHX (e) CRDT
4. (e) All have two vowels in small letters whereas (e) has no vowel at all.
5. (d) In all others, the first two letters are the same.
6. (e) In all others, the first two letters are consecutive in alphabet from backward order, i.e. BA, CD e.t.c.
7. (d) In all others, the first two letters are repeated followed by one small and one capital letter, maintaining the alphabetic sequence.

8. (e) Preceding letter of the first occupies the 2nd position and one preceding the 2nd occupies the 3rd position and the one preceding the 3rd occupies the 4th place.
9. (a) Starts with two small letters whereas all others end in two small letters.

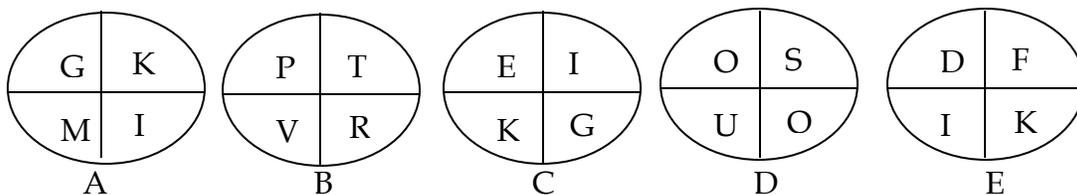
Other formats

Letter classification questions may be given various other formats as illustrated below:

1. Which block contains letters in a different order?



2. Which of the following circles contains letters in a different order?



Answers

1. (c) In all other blocks, letters are in alphabetic sequence moving anticlockwise, except in (c).
2. (e) In all other circles, letters in opposite diagonal positions, starting from top left, are in alphabetic order with one letter skipped in between, except in (e). G (h) I (j) K (l) M; P (q) R (s) T (u) V; E (f) G (h) I (j) K; O (p) Q (r) S (t) U. This sequence is not found in circle (e).

Practice Questions

Directions: Here are 5 groups of letters. Four of them are alike in some way or the other while one is different (odd). Tick-mark the one which is different from others

- | | | | |
|-----|-----------------|-----------------|-----------------|
| 1. | (a) aB EF ij | (b) bC FG jk | (c) pQ TU yz |
| | (d) tU XY bc | (e) gH KL op | |
| 2. | (a) bb DEF H | (b) cc EFG I | (c) aa CDE G |
| | (d) gg IJK M | (e) ff Hij L | |
| 3. | (a) aaa b FG | (b) bbb c GH | (c) hhh i MN |
| | (d) ddd c HI | (e) fff g KL | |
| 4. | (a) zyx abc | (b) wvu dee | (c) tsr ghi |
| | (d) qpo jkl | (e) pon mno | |
| 5. | (a) abc FGH | (b) bcd GHI | (c) def IJK |
| | (d) uvw ZAB | (e) nmo RST | |
| 6. | (a) hi KLM | (b) op STU | (c) ab EFG |
| | (d) bc FGH | (e) Im PQR | |
| 7. | (a) aa cc ee gg | (b) cc ee gg ii | (c) dd ff hh ll |
| | (d) mm oo qr tt | (e) oo qq st vv | |
| 8. | (a) abcd HI | (b) opqr VW | (c) xyza EF |
| | (d) cdef JK | (e) tuvw YZ | |
| 9. | (a) aabb ffgg | (b) ffgg kkl | (c) kkl ppqq |
| | (d) ppqq uuVv | (e) uuvv zaa | |
| 10. | (a) aaAA eeFF | (b) ppQQ uuVV | (c) IIMM qqRR |
| | (d) rrss wwXX | (e) ooPP ttUU | |
| 11. | (a) aaa eee iii | (b) bbb fff jjj | (c) ooo rrr vvv |

- (d) mmm qqq uuu (e) ppp ttt xxx
12. (a) ccc ggg kkk (b) kkk ooo sss (c) ttt xxx bbb
 (d) bbb fff jjj (e) mmm qqq ttt
13. (a) pP MI (b) sS Po (c) qQ Nm
 (d) LL IH (e) vV Ts
14. (a) ccc eee HI (b) aaa ccc FF (c) bbb ddd GG
 (d) Ooo qqq fT (e) mmm ooo RR
15. (a) bed fgh (b) opq stu (c) abc efg
 (d) pqr tuv (e) tuu xyz

Answers and Explanations

1. (c) End letters should have been XY, because the scheme followed is aB(cd)EF(gh)ij. Letters in brackets show a skipping pattern. This applies to all questions.
2. (e) All medical letters should be capital as per other group of letters.
3. (d) End letters should be IJ. The scheme is aaab(cde)FG.
4. (b) End letters should be 'def'. The scheme is zyx and abc, i.e. 3 letters from end of the alphabet and 3 letters from the beginning, maintaining the alphabetic order.
5. (e) It should have been mno (pq) RST.
6. (c) 3 letters of the end should be capital letters. Hence ab EFG. The scheme is ab (cd) EFG.
7. (c) End letters should have been "jj" instead of "II".
8. (e) End letters should have been AB instead of YZ. Follow a circular continuation of alphabets.
9. (d) In place of capital V, small v should be there. The scheme is aabb (cde) ffgg.
10. (d) In the first term "ss" should be in capitals "SS".
11. (c) Correct letter grouping is: ooo (pqr)sss(tuv)www.

12. (e) In the end, in place of "ttt" there should be "uuu". The scheme of skipping letters is ccc(def)ggg(hij)kkk.
13. (d) One initial and one final letter is capital in all others.
14. (d) Correct answer should be "ooo qqQ TT". i.e. both T's capital.
15. (e) Correct answer = tuv xyz. The scheme is bed(e)fgh.

NUMBER CLASSIFICATION

Here in place of letters, numbers/group of numbers are used and you have to identify the number/group of numbers that is different from the rest.

Illustrations

	(a)	(b)	(c)	(d)	(e)
1.	6	18	12	3	7
2.	515	875	380	590	876
3.	579	885	696	398	876
4.	11	13	17	19	39
5.	539	638	730	731	751
6.	124	235	789	510	346

Answers and Explanations

1. (e) 7. All other numbers are divisible by 3, except 7.
2. (e) 876. All other numbers are divisible by 5, except 876.
3. (d) 398. All other digits in each group when totalled up, the sum obtained is 21. In (d) the sum obtained is 20.
4. (e) 39. All others are prime numbers (they can only be divided by themselves and by 1).
5. (e) 751. All other groups have digit 3 in common in the centre.
6. (d) 510. Figures in each group are in increasing order, whereas in (d) they are in decreasing order.

Practice Questions

Directions: Out of the following five numbers or sets of numbers (a-e), one does not belong to the same classification (category). All others resemble each other in one way or the other. You have to find the odd one out.

1. (a) 8 (b)4 (c) 16 (d) 10 (e) 17
2. (a) 9 (b)3 (c) 15 (d) 12 (e) 19
3. (a) 102 (b)210 (c) 320 (d) 365 (e) 390
4. (a) 52163 (b)25631 (c) 34424 (d)5183 (e) 33442
5. (a) 315 (b) 207 (c) 711 (d) 423 (e) 325
6. (a) 3, 7, 5, 11 (b)11, 17, 19, 23 (c) 3, 29, 7, 5
(d) 3, 11, 13, 3 (e) 2, 4, 3, 5, 7
7. (a) 14 (b) 7 (c) 28 (d)21 (e) 36
8. (a) 63852 (b)52638 (c) 85362 (d) 28365 (e) 28751
9. (a) 3795 (b) 9359 (c) 5937 (d) 7355 (e) 3745
10. (a)11, 3, 3, 17 (b) 41, 5, 3, 47 (c) 71, 7, 3, 17(d) 37, 14, 19, 7 (e) 67, 71, 3, 5
11. (a) 35, 24 (b) 79, 68 (c) 57, 46 (d) 87, 68 (e)35, 79
12. (a) 67, 19 (b) 71,11 (c) 41,19 (d) 61, 15 (e) 89, 41
13. (a) 5, 13, 17 (b) 29, 1, 5 (c) 17, 17, 1 (d) 17, 17, 5 (e) 15, 15, 5
14. (a) 65, 83 (b) 83, 47 (c) 34, 79 (d) 65, 23 (e) 43, 67
15. (a)3535 (b)7595 (c) 9575 (d)7397 (e) 3579
16. (a) 49 (b)140 (c) 98 (d) 77 (e) 97
17. (a) 98765 (b)98767 (c) 987654 (d) 9876543 (e) 98765432
18. (a) 37037 x 3 (b)37037 x 6 (c) 37037 x 12
(d) 37037 x 9 (e) 37037 x 4
19. (a) 121 (b)12321 (c) 123421 (d)123454321 (e)12345654321

VERBAL REASONING TESTS

20. (a) 876321 (b) 387316 (c) 349416 (d) 31896 (e) 372164
21. (a) 6 (b) 18 (c) 12 (d) 3 (e) 7
22. (a) 18 (b) 6 (c) 12 (d) 18 (e) 9
23. (a) 7 (b) 17 (c) 37 (d) 5 (e) 9
24. (a) 14 (b) 28 (c) 21 (d) 41 (e) 35
25. (a) 24 (b) 12 (c) 36 (d) 27 (e) 48

Answers and Explanations

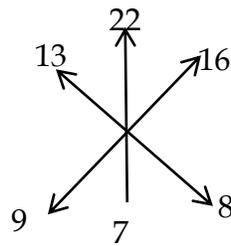
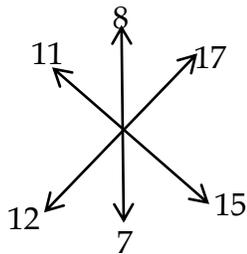
1. (e) Not divisible by 2
2. (e) Not divisible by 3
3. (d) Not divisible by 2
4. (e) Others total up to 17 ($5+2+1+6+3 = 27$) except (e).
5. (e) Others total up to 9 ($3+1+5 = 9$) except (e).
6. (e) Others are prime numbers. In (e), only the last 3 are prime numbers.
7. (e) Others are all divisible by 7.
8. (e) All contain the same digits except (e), (Same digits = 23568).
9. (e) All are odd numbers, except (e) which has 3 odd and one even number.
10. (d) All contain prime number sets, except (d) which has an even number.
11. (c) Each 2 figure set consists of 2 odd numbers (initially) and 2 (even numbers finally) while (e) contains only odd nos.
12. (e) All are pairs of 1 prime and 1 odd number while (e) contains only prime numbers.
13. (e) Totals of all are 15. Sets (a) to (d) consists of prime numbers only but (e) which also totals up to 15, consists of odd numbers.
14. (c) Pairs of odd and even numbers. First even number followed by odd numbers in all (a), (b), (d), (e). In (c), the pair of odd and even numbers is opposite.
15. (e) Two odd numbers followed by two prime numbers in all cases, except in (c) where the prime number is followed by an odd one.

16. (e) All are products of multiplication of a figure by 7.
 $7 \times 7 = 49, 7 \times 20 = 140, 7 \times 14 = 98, 7 \times 13 = 91.$
17. (b) All figures go on increasing backward and decreasing forward.
18. (e) Products of (a) to (d) are all uniform figures except for (e).
 (a) 111111 (b) 222222 (c) 333333 (d) 444444.
19. (c) Numbers read the same backward and same forward in all other cases.
20. (e) All others total up to 27 except(e) which totals up to 23.
21. (e) All others are divisible by 3.
22. (e) All others are divisible by 2.
23. (e) All others are prime numbers.
24. (d) All others are multiples of 7.
25. (d) In all, the second integer is the double of the first, e.g. in (c) $36 = 3 \times 2 = 6.$

Other formats

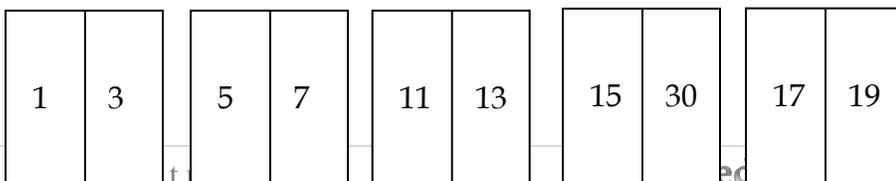
Number classification questions may be given various other formats as illustrated below.

1. Study the relationship of numbers in (A), which have a set pattern. In (B), one of the numbers is odd, which makes the relationship among figures in (B) different from those in (A):



- (a) 22 (b) 7 (c) 8 (d) 13 (e) 16

2. Which block consists of numbers that are different from numbers given in other blocks?



A B C D E

3. Which square contains a number that does not fit in the series with other numbers?

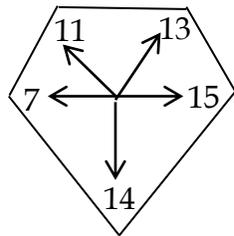
10	11	16
8		19
5		32
4		36

(a) 5 (b) 11 (c) 19 (d) 10

4. Which block contains numbers that do not belong to the series or is an odd man in the sequence?

1	3	5	7	9	11	13	15	12	16
A	B	C	D	E					

5. Which number in the following figure is different from the rest?



(a) 7 (b) 11 (c) 13 (d) 15 (e) 14

Answers and Explanations

1. (b) 7 Studying the numbers in (A) reveals that the numbers are obtained by adding together the three exterior numbers and subtracting the two interior numbers.

$$(8 + 12 + 15) - (11 + 17) = 7 \text{ (A)}$$
 Therefore, in (B) also, it should be

$$(22 + 9 + 8) - (13 + 16) = 10$$
 There should be 10 at the bottom instead of 7.
2. (d) 15/30 In other blocks there are prime numbers they can only be divided by themselves and 1. In block (D) there are numbers (15 and 30) which are not prime numbers. They are divisible by themselves and 1, 3 and 5.
3. (b) 11. The numbers start from 4 in clockwise direction in each row starting from the bottom square. The order is plus one, double the first figure; plus two, double the third figure; plus three, double the next figure plus 4.
4. (e) 12/60 The other blocks form a series by adding two to the first number to obtain the second number in every block.
5. (e) 14. All others are odd numbers, except (e) 14.

WORDS/ITEMS CLASSIFICATION

In this type of question, you are given a group of five or six words/items, which have some sort of similarity among themselves. One of the items does not belong to the group. Identify the one that is odd.

Illustrations

VERBAL REASONING TESTS

Directions: Select from the following groups, the word that does not belong to the group or is different from the rest.

1. (a) Nickel (b) Tin (c) Steel (d) Iron (e) Copper
2. (a) Squash (b) Pumpkin (c) Tomato (d) Cucumber (e) Corn
3. (a) Dictionary (b) Biography (c) Atlas (d) Directory (e) Almanac
4. (a) Touch (b) See (c) Hear (d) Eat (e) Smell
5. (a) Artist (b) Golfer (c) Newscaster (d) Dancer (e) Mechanic
6. (a) Water (b) Sun (c) Gasoline (d) Wind (e) Cement

Answers and Explanations

1. (c) Steel. The others are simple metals. Steel is an alloy (combination of two or more metals).
2. (e) Corn. The others grow on vines. Corn grows on a stalk.
3. (b) Biography. All the others are reference books. A biography is a narrative.
4. (d) Eat. The others are senses. Eating is a body function.
5. (c) Newscaster. All the others must use their hands and body but not words to perform their jobs.
6. (e) Cement. The others can all be used as sources of producing energy.

Practice Questions

Directions: In each of the following questions, there are five choices (a-e). Four of them are alike and one different. Find the odd man out.

1. (a) Father (b) Mother (c) Sister (d) Mother-in-law (e) brother
2. (a) Sunday (b) Monday (c) Holiday (d) Friday (e) Saturday
3. (a) Truthful (b) Sly (c) Virtuous (d) Pensive (e) Cowardly
4. (a) Cricket (b) Chess (c) Hockey (d) Football (e) Volleyball
5. (a) Chair (b) Sofaset (c) Carpet (d) Bench (e) Stool
6. (a) Tiger (b) Leopard (c) Fox (d) Wildcat (e) Cougar
7. (a) Furnace oil (b) Mobil oil (c) Petrol (d) Diesel (e) Kerosene oil

VERBAL REASONING TESTS

8. (a) Flew (b) Sailed (c) Travelled (d) Rode (e) Walked
9. (a) Wife (b) Male (c) Female (d) Husband (e) She
10. (a) Explain (b) Instruct (c) Teach (d) Train (e) Educate
11. (a) Oxygen (b) Hydrogen (c) Carbon-dioxide (d) Nitrogen (e) LPG
12. (a) Boy (b) Cow (c) Bow (d) Due (e) Out
13. (a) Time (b) Room (c) Person (d) Reason (e) Object
14. (a) Three-wheeler (b) Taxi (c) Bus (d) Tanker (e) Car
15. (a) Violet (b) Green (c) Red (d) White (e) Gold
16. (a) Parallelism (b) Analogy (c) Similar (d) Likeness (e) Distinct
17. (a) Mars (b) Jupiter (c) Mercury (d) Challenger (e) Neptune
18. (a) Letter (b) Box (c) Book (d) Pot (e) Orange
19. (a) London (b) Moga (c) Delhi (d) Bombay (e) Calcutta
20. (a) Eye (b) Ear (c) Eat (d) Oats (e) Nose
21. (a) Booking (b) Bang (c) Looking (d) Making (e) Leaking
22. (a) Fear (b) Fair (c) Peel (d) Poor (e) Hole

Answers and Explanations

1. (d) The others form part of a normal nuclear family.
2. (e) Others are names of days of the week.
3. (d) This refers to mood. Others refer to character traits.
4. (b) Is an indoor game.
5. (c) Is a floor spread. Others are objects to sit on.
6. (c) Others belong to the cat family.
7. (b) Others are fuels.
8. (c) Others are specific ways of travelling.
9. (d) All end in vowel "E".
10. (a) Except this, all imply the presence of students.
11. (e) Diphthongs (3 vowels together) start the words in this case. Others end in 3 vowel combinations.

12. (e) All others are vapours except (e) which is liquid gas.
13. (b) All are answers to questions who, what, when, where except room which is non-generic.
14. (d) Others are to carry passengers.
15. (e) Others are names of colours. Note the word here is 'Gold' and not 'Golden'.
16. (e) All others are synonyms except (e) which is an antonym.
17. (d) All others are names of planets.
18. (e) All letters end in a consonant but (e) ORANGE ends in a vowel.
19. (e) All words contain 2 vowels except (e) which contains 3.
20. (e) All start with vowels except (e) NOSE which starts with a consonant.
21. (b) All have the same suffix (ING) except (b) BANG.
22. (e) All have 2 vowels together in the middle except (e) which no doubt has two vowels but with an intervening letter.

How to Tackle Words/Items Classification Question

There are several basic relationships that could exist between words (also see section on Words Analogy). For example;

- (i) Relationship based on meaning
- (ii) Inter- relationship of words
- (iii) Word- consistency relationship
- (iv) Word formation relationship
- (v) Functional relationship

You have to determine the relationship among the given words and then identify the odd word/item, i.e. the one that does not have the same relationship as the other choices in the question. The following illustrations will help to clarify.

Practice Questions

1. (a) Handle (b) Chain (c) Chain-cover (d) Spokes (e) Cycle

VERBAL REASONING TESTS

2. (a) Iron (b) Silver (c) Zinc (d) Copper (e) Brass
3. (a) Ohm (b) Pascal (c) Volt (d) Watt (e) Metre
4. (a) Lead (b) Mercury (c) Antimony (d) Chromium (e) Cast iron
5. (a) Sign of plus (b) Sign of minus (c) Sign of Multiplication
(d) Sign of equal to (e) Sign of therefore
6. (a) oxygen (b) Hydrogen (c) Carbon dioxide
(d) Hydrogen-peroxide (e) Nitrogen
7. (a) Water (b) Sulphuric acid (c) Nitric acid
(d) Hydrochloric acid (e) Mercury
8. (a) Moon (b) Saturn (c) Venus (d) Earth (e) Mercury
9. (a) September (b) November (c) October (d) December (e) January
10. (a) Africa (b) Australia (c) Asia (d) Europe (e) Sri Lanka
11. (a) Inch (b) Foot (c) Yard (d) Meter (e) Quart
12. (a) Litres (b) Grams (c) Kilograms (d) Tonnes (e) Quintal
13. (a) Square inch (b) Square foot (c) Square yard (d) Mile (e) Acre
14. (a) Cubic metres (b) Cubic centimetre (c) Litres (d) Gallons
(e) Square metres
15. (a) Thunder (b) Clouds (c) Rain (d) Lighting (e) Rice

Answers and Explanations

1. (e) Others are parts of a cycle.
2. (c) Others are metals. Brass is an alloy.
3. (e) Others are units to measure abstract items.
4. (e) All others are pure metals.
5. (d) In other signs, lines are used. In this sign, dots are used.
6. (d) This is a gas in liquid form. Others are vapours.
7. (e) All liquids make the surface wet except mercury.
8. (a) Moon is a satellite. Others are planets.
9. (e) Other names of months end in 'ber' except January.

10. (e) Others are continents, except (e) which is a country.
11. (e) This unit measures liquids while others are for length measurement.
12. (a) This measures volumes, others measure weight.
13. (d) Others measure area, (d) measures length.
14. (e) Other measures volume, (e) measures area.
15. (e) Others are rain related phenomena.

Illustrations

1. (a) Different (b) Separate (c) Distinct (d) Similar (e) Distinguishable

ANSWER: (d) Similar. All the others are synonyms, i.e. relationship based on their meanings.

2. (a) Pluto (b) Jupiter (c) Neptune (d) Mercury (e) Moon

ANSWER: (e) Moon. All others are planets, while Moon is a satellite of Earth (inter-relationship).

3. (a) Torch (b) Where (c) Based (d) Force (e) Course

ANSWER: (e) Course. All other words consist of five letters, except course, which has six letters (words consistency relationship).

4. (a) Typewriter (b) Lead pencil (c) Note book (d) Ballpoint pen (e) Fountain pen

ANSWER: (c) Note book: All others are instruments used for writing, except (c) (functional relationship).

5. (a) Roller (b) Space-bar (c) Keyboard (d) Tab-set (e) Typewriter

ANSWER: (e) All others are parts of a typewriter (part-whole relationship).

Practice Questions

1. (a) Coal (b) Furnace oil (c) Mustard oil (d) Petrol (e) Cowdung
2. (a) Quality (b) Quantity (c) Qualify (d) Educated (e) Beauty
3. (a) Teacher (b) Cheer (c) Greater (d) Cheater (e) Create
4. (a) Igloo (b) Kothi (c) Bungalow (d) Flat (e) Showroom

VERBAL REASONING TESTS

5. (a) Note book (b) Copy (c) Diary (d) Paper (e) Typewriter
6. (a) Sit (b) Hit (c) Kit (d) Fit (e) Knit
7. (a) Devnagri (b) Ashu Lipi (c) Sanket Lipi (d) Shorthand (e) Shorterhand
8. (a) Zeal (b) Seal (c) Kneel (d) Feel (e) Heel
9. (a) U.P. (b) H.P. (c) M.P. (d) A.P. (e) Chandigarh
10. (a) April (b) May (c) July (d) August (e) January
11. (a) September (b) October (c) November (d) December (e) July
12. (a) Keyboard (b) Roller (c) Tab-set (d) Typeface (e) Typewriter
13. (a) Iron (b) Copper (c) Silver (d) Zink (e) Mercury
14. (a) Fixed (b) Times (c) Males (d) Homes (e) Roof
15. (a) Colours (b) Green (c) Orange (d) Blue black (e) Pink

Answers and Explanations

1. (c) Others are fuels.
2. (d) All have 3 vowels, except(d) which has 4. Alternately, all end in 'y' while (d) ends in 'ed'.
3. (c) All words can be formed from letters of the word "Teacher".
4. (c) Others are dwelling places.
5. (e) Others are things to write on or into where as typewriter is a device to write or type.
6. (c) Kit is a noun. Others are verbs.
7. (a) Others are scripts. This is a language.
8. (c) Word having 5 letters.
9. (e) Others are states.
10. (a) It is the month having 30 days. The others have 31.
11. (e) Others end in "ber".
12. (e) Others are parts of a typewriter.
13. (e) It is a Metal in liquid form, others are solid.

14. (e) All words consist of: Consonant-vowel-consonant-vowel- consonant.(e)
Has two vowels in the middle and one consonant each in the beginning and end.
15. (a) Others are names of colours.

VERBAL ANALOGY

In such questions, you will be presented with a pair of words, letters, groups of letters, numbers or groups of numbers. From the answer choices, you need to select the choice that best matches the relationship existing between the first two words, letters or numbers.

The given pair of words, letters or numbers is set off by a colon or ratio sign (:). The colon is merely a kind of code or symbol which signifies that word A is related to word B. The double colon (: :) that separates the given pair stands for "in the same way as". For example:

Dark : Light : : ?

- | | |
|---------------------|--------------------|
| (a) Thin : Slim | (b) Stout : Strong |
| (c) Germs : Disease | (d) Hoi : Cold |
| (e) Candle : Bulb | |

ANSWER: (d) In the above example, the answer is (d) Hot : Cold because Hot is related to Cold in the same way as Dark is related to Light. In other words, the two words are antonyms.

Practice Questions

Directions: In each of the following questions, you are given a related pair of words (question pair) in capital letters. Each capitalized pair is followed by five pairs of words. Choose the pair from the answer choices (A-E) that best expresses the relationship similar to that expressed by the question pair.

1. EDITOR : MAGAZINE
- | | |
|-----------------------|---------------------|
| (a) Novel : Writer | (b) Poem : Poet |
| (c) Chair : Carpenter | (d) Director : Film |

- (e) Psychiatrist : Neurotic
2. DETERIORATION : RUST
- (a) Iron : Water (b) Emaciation : Debilitation
- (c) Depression : Unemployment (d) Recession : Inefficiency
- (e) Promulgation : Legislation
3. INTELLIGENTSIA : ELITIST
- (a) I.Q. : Intelligent (b) Outershell : Sea-shell
- (c) Rabble : Plebeian (d) Gentry : Public
- (e) Commonality : Common class
4. TEDIOUS : BORING
- (a) Boor : Oafish (b) Pressing : Crushing
- (c) Poor : Poverty (d) Incongruous : Consistent
- (e) Indefatigable : Untiring
5. ELEVATED : EXALTED
- (a) Promoted : Excellence (b) Raise : Commensurate
- (c) Dirty : Filthy (d) Disorderly : Unfaithful
- (e) Purified : Hygienic
6. TICKET : ADMISSION
- (a) School : Book (b) Strong : Moral
- (c) Neck : Collar (d) Coat : Pocket
- (e) Money : Luxuries
7. MUSIC : HARMONIUM
- (a) Novel : Writer (b) Words : Word-Processor
- (c) Author : Book (d) Water : Tank
- (e) Guitar : Sound
8. ENERGY : DISSIPATE
- (a) Charge : Battery (b) Food : Temperature
- (c) Money : Squandor (d) Power : Generator
- (e) Atom : Power

9. COMMANDER : COMMANDS

- (a) Surgeon : Diagnosis (b) Senator : Legislates
 (c) Teacher : Checks (d) Aviator : Aerates
 (e) Specific : Responses

10. FORMULA : CONSTITUENT

- (a) Verdict : Sentence (b) Rocket : Pilot
 (c) Carburettor : Mixture (d) Binominal : Monocular
 (e) Equation : Term

Answers and Explanations

1. (d) The editor works on the magazine to bring it into shape for presentation to readers. The director works on the film to make it ready for release to the viewers. Here is the relationship of association. In other choices, the sequence is not matching the question pair.
2. (c) As rust can be caused by deterioration; unemployment can be caused by depression.
3. (c) Intelligentsia is characterized as elitist; rabble (common class of people) may be characterized as plebeian (belonging to a lower social class of people).
4. (e) Tedious is a synonym for boring and indefatigable is a synonym for Untiring.
5. (c) Elevated (promoted/advancement) and exalted both have the same meaning but the latter is less in degree or intensity. Similarly, dirty is a lower degree of uncleanness.
6. (e) A ticket enables admission and money enables one to buy luxuries.
7. (b) Music will be produced from a harmonium only if a skilled person plays it. Similarly words will be processed if a skilled operator uses the word

- processor. Choice (e) could have been correct if words were in reverse order to match the question pair sequence.
8. (c) Energy can be wasted or dissipated just as money can be wasted or squandered.
 9. (b) The primary, function of the commander is to command. Similarly a senator legislates. This is a functional relationship.
 10. (e) Constituent is one of the components of a formula. Similarly, term is a constituent of equation. This is a whole and part relationship.

Hints for Solving Analogy Questions

Solving analogy questions can be made simple by keeping the following points in mind.

1. Establish the relationship between the given pair, before looking at the answer choices. After you have found the relationship, look at the answer choices to find a similar relationship amongst them.

Composer : Song :: ? : ?

- | | |
|--------------------------|-----------------------|
| (a) Building : Architect | (b) Poem : Poet |
| (c) Writer : Book | (d) Chair : Carpenter |

The primary relationship between the given pair of items ‘Composer : Song’ is that the composer creates or composes a song. The same relationship exists in choice (c) where a Writer creates a Book.

2. The sequence of items in the answer choices contain a person and the article he creates or produces. In the question pair ‘Composer : Song’, the person comes first, followed by the article he creates. Therefore, in the correct answer choice, the person must come first followed by the article he creates. The only answer choice that satisfies this condition is (c) Writer: Book. It is, therefore, necessary to compare the sequence of items in the question pair with answers that may match the primary relationship.

The list of probable relationships found in analogy questions is given in the following table (Table 1).

ANALOGICAL RELATIONSHIPS

Table 1

Type of relationship		Examples	Explanation
1.	Antonymous relationship	Slim: Stout Poor : Rich Never : Always	Opposite in meaning
2.	Synonymous relationship	Slim : Thin Kind: Benevolent Stout : Portly	Similar in meaning
3.	Cause and effect relationship	Germ : Disease Malaria Insult Humiliation	Mosquito : : reaction that occurs due to the first.
4.	Worker-Article relationship	Author : Book Chair Cobbler : Shoe	Carpenter : Creator of an article and the article created

VERBAL REASONING TESTS

5.	Worker Tool relationship	Tailor : Sewing machine Surgeon : Forceps Writer : Pen	Tools used by various technicians
6.	Tool-Object relationship	Pen: Paper Saw : Wood Knife: Meat Starter : Motor	Tools used on the object (knife cuts the meat; starter starts the motor)
7.	Whole-part, part-whole relationship	Car: Wheel Coils : Motor Soldier : Regiment	Wheel is part of a car; coil is a part of motor; soldier is a part of a regiment
8.	Degree of difference relationship	Tap: Slam Nip : Crush Admiration : Love	Same meanings but difference in degree only
9.	Classification relationship	Cow : Mammals Lizard : Reptile	Biological/botanic classification. Similarly there can be chemical/physical classification.

VERBAL REASONING TESTS

10.	Functional relationship	Axe : Wood Scissors : Cloth General : Command	First term described the Function of the second
11	Sex Relationship	Man : Woman Male : Female Bull : Cow	
12	Time sequence Relationship	Morning : Evening Day : Night	
13.	Finished product and raw material relationship	Flour : Bread Grape : Wine Pulp : Paper	First term described the function of the second
14	Symbolic Relationship	Flag : Nation Stars : Rank	
15	Specialist and subject relationship	Skin : Dermatologist Bone : Orthopaedist Heart : Cardiologist	
16	Numerical relationship	4 : 16 5 : 25	Multiplication relationship. Similarly there can be relationships of division/addition/subtraction

VERBAL REASONING TESTS

17	Place Relationship	Delhi : Red fort Agra : Taj Mahal Bikaner : Rajasthan	Red Fort is in Delhi; Taj Mahal is in Agra; Bikaner is in Rajasthan
18	Association Relationship	Time : Clock Barometer : Pressure	Clock is associated with time. Similarity barometer is associated with measurement of pressure
19	Purpose Relationship	Sand paper : Abrasion Oil : Lubrication	Sand paper is used for abrasion and oil for lubrication
20	Age relationship	Boy : Man Calf : Cow	
21	Comparative relationship	Black : Coal Red : Blood	Examples used while making comparisons of colours, e.t.c.
22	Habit relationship	Lion : Carnivorous Cow : Herbivorous	Food habit relationship
23	Quantitative relationship	Kilogram : Gram Litre : Millilitre	
24	Qualitative relationship	Big : Small Transparent : Opaque	Can also be classified under antonyms.

VERBAL REASONING TESTS

25	Utility relationship	Chair : Sitting Pen : Writing Car : Driving	Relationship of the article to the purpose for which it is used.
26	Blood/Family relationship	Father : Mother Brother : Sister	

Practice Questions

1. LUGUBRIOUS : SORROWFUL

- (a) Unhappy : Gloomy
- (b) Lustrous : Luscious
- (c) Credible : Incredible
- (d) Euphoric : Cheerful
- (e) Frenzied : Excited

2. GLOVE : HAND

- (a) Neck : Collar
- (b) Tie : Shirt
- (c) Shoe : Lace
- (d) Coat : Pocket
- (e) Socks : Feet

3. STUDENT : MARK

- (a) Teacher : Class
- (b) Pen : Nib
- (c) Scholar : Book
- (d) Discipline : Student
- (e) Waiter : Tip

4. KNOB : DOOR

- (a) Shoe : Socks
- (b) Belt : Trousers
- (c) Nose : Face
- (d) Necklace : Neck
- (e) Ring : Ear

5. PRIMEVAL : MEDIEVAL

- (a) Snow : Ice
- (b) Thorn : Rose
- (c) Evolution : Revelation
- (d) Gorilla : Soldier
- (e) Dinosaur : Dragon

VERBAL REASONING TESTS

6. DEplete : ENervate

- (a) Strengthen : Weak
- (b) Invigorate : Tired
- (c) Exhaust : Enfeeble
- (d) Tighten : Loosen
- (e) Automobile : Engine

7. LIght : CANDLE

- (a) Exercise : Strength
- (b) Dieting : Overweight
- (c) Power : Battery
- (d) Heat : Coil
- (e) Automobile : Engine

8. Embarrass : HUMiliate

- (a) Difficult : Painful
- (b) Annoy : Exasperate
- (c) Gamble : Investment
- (d) Embezzle : Peculate
- (e) Enquire : Ask

9. OPERAtion THEAtre : SURGERY

- (a) Judge : Lawyer
- (b) Doctor : Disease
- (c) Settlement : Client
- (d) School : Classes
- (e) Court : Litigation

10. OVERLOOK : ABERRAtion

- (a) Conviction : Criminal
- (b) Error : Omission
- (c) Condone : Offence
- (d) Careless : Loyalty
- (e) Mitigate : Penitence

Answer and Explanation

1. (c) Lugubrious is a person more gloomy and a sorrowful person is only gloomy. Similarly, a euphoric person has more feelings of well being than a cheerful person. The words have the same meaning, the difference being only one of degree.
2. (e) Just as socks are made to fit and cover the feet a glove is made to fit and cover the hand.

3. (e) As a student gets marks for good work in a test or examination, a waiter gets a tip for giving good service.
4. (c) A knob must be on a door, a nose must be on a face.
5. (e) Primeval period is associated with the dinosaur and medieval period with the dragon.
6. (c) Deplete means to exhaust and enervate means to become weak. Exhaust and enfeeble also mean the same. The relationship is analogous with a difference of degree only.
7. (c) A candle is a source of light as a battery is a source of power.
8. (b) Embarrass and humiliate are similar in meaning but the latter is stronger in degree. The same relation exists between annoy and exasperate.
9. (e) Operation theatre is a place where surgery is performed and court is a place for litigation.
10. (c) One can overlook an error or an aberration; one can also pardon (condone) an offence.

Other formats of analogy questions

There may be questions on analogy in different formats. Some illustrations are given below:

Directions: Which makes the best comparison?

1. Foot is to hand as leg is to

- (a) Elbow (b) Toe (c) Finger (d) Arm (e) Nails

ANSWER: (d) Arm

A foot is attached to a leg, a hand is attached to an arm.

2. Love is to hate as valour is to

- (a) Courage (b) Security (c) Cowardice (d) Anger (e) Terror

ANSWER: (c) Cowardice

Love is the opposite of hate. Valour is the opposite of cowardice.

3. Daughter is to father as niece is to

VERBAL REASONING TESTS

(a) Nephew (b) Cousin (c) Uncle (d) Mother (e) Brother

ANSWER: (c) Uncle

Daughter is the female child of father, niece (daughter of one's brother or sister) has a similar relationship with uncle.

4. Bark is to tree as scales are to

(a) Gills (b) Elephant (c) Fish (d) Skiing (e) Tape

ANSWER: (c) Fish

Bark is the outer protective cover of the trunk of a tree, scales are the outer protective cover of fish.

5. Pillow is to pillowcase as arm is to

(a) Body (b) Sleeve (c) Hand (d) Glove (e) Ring

ANSWER: (b) Sleeve Pillow fits inside the pillowcase; an arm fits inside a sleeve.

Practice Questions

1. INTIMIDATE : WHEEDLE

(a) Extol : Disparage

(b) Outwardly : Truly

(c) Defile : Rebuke

(d) Coordinate : Disinter

(e) Resolute : Impetuous

2. CAPRICIOUS : RELIABILITY

(a) Heated : Boiling

(b) Arbitrary : Whimsicality

(c) Tenacious : Practicality

(d) Unreliable : Inhuman

(e) Extemporaneous : Predictability

3. AGREEMENT : DISSENT

(a) Contract : Clause

(b) Schism : Diverge

(c) Impasse : Concede

(d) Touchdown : Penalty

(e) Latitude : Resistance

4. EXPEND : REPLENISH

(a) Occupy : Re-occupy

(b) Encroachment : Occupy

VERBAL REASONING TESTS

- (c) Defect : Rejoin
(e) Exhort : Encourage
5. LOATH : COERCION
(a) Detest : Caressing
(c) Irate : Antagonism
(e) Contemplative : Encourage
6. SCALES : FISH
(a) Lady : Dress
(c) Tree : Leaves
(e) Bear : Fur
7. STOOL : BENCH
(a) Chair : Table
(c) Foot rule : Yardstick
(e) Glass : Cup
8. APPEAL : REFUSAL
(a) Obesity : Over-eating
(c) Try : Failure
(e) Examination : Passing
9. WEIGHT : KILOGRAM
(a) Pint : Liquid
(c) Mile : Length
(e) Bushel : Corn
10. WRITER : PEN
(a) Needle : Tailor
(c) Paint : Painter
(e) Saw : Carpenter
- (d) Ferment : Rebellion
(b) Irritate : Caressing
(d) Reluctant : Persuasion
(b) Skin : Man
(d) Bird : Feather
(b) Carpenter : Chair
(d) Wood : Steel
(b) Deny : Affirmation
(d) Struggle : Victory
(b) Distance : Kilometre
(d) Pound : Weight
(b) Artist : Brush
(d) Teacher : Class

Answers and Explanations

1. (a) Intimidation is forcing by fear a person to take action, while wheedle is persuading a person by flattery. Extol means praise highly and disparage means to belittle or treat slightly. Each is a pair of opposites.
2. (e) Capricious behaviour is not characterised by reliability. Extemporaneous actions are not characterised by predictability,
3. (c) An agreement may end if one of the parties to it begins to dissent. An impasse may end if one of the parties will concede a point or points to the other.
4. (c) Expend means to use up and replenish is to refill. To defect is to desert whereas rejoin means to return to the company of those one has left. There is an opposite relationship.
5. (d) If someone is loath (unwilling) to do something, coercion (use of force) may be required to change his mind. Similarly, if a person is reluctant, he may be persuaded to change his mind.
6. (c) Scales are the external covering of a fish as skin is the external covering of a human body. Choice (d) could have been also correct if the word pair should have been "Feather " Bird" so as to be in line with the question pair.
7. (c) Stool and bench both are for sitting purposes, the differences lies in the size (bench is bigger than stool). Similarly, footrule and yardstick both are for measuring the length, the difference is that the yardstick is bigger than the footrule.
8. (c) When one appeals, he expects an acceptance and not refusal. When one tries he expects success and not failure. The relationship is one of negative response to an action.
9. (b) Measurement of weight is expressed in kilogram as measurement of distance is expressed in kilometer. In answer choices (a) and (c) could have been acceptable if the sequence of the words would have been reverse in order to match the question pair.

10. (b) A writer needs a pen for his work and an artist needs a brush for his work.
Other answer choices have been rejected as they do not follow the sequence of question pair.

LETTERS AND NUMBER ANALOGIES

As word analogy questions illustrated, above, there may also be alphabets and/or number analogies. Some examples are given below.

Directions: Find the correct letter pair from the alternatives given in answer choices below, to locate the same relationship among the group of letters as established between the sets in the question.

1. ZA : YB :: XC : ?
(a) YZ (b) NM (c) BC (d) OP (e) WD
2. ABCD : WXYZ :: EFGH : ?
(a) STUV (b) STOU (c) STUE (d) TSUV (e) STUV
3. AD : BE :: CF : ?
(a) DE (b) EC (c) DG (d) FG (e) GD
4. ACDE : Oghi :: ESTU : ?
(a) EPQU (b) ABCD (c) OGhk (d) XYZE (e) ZXZE
5. BAC : DEF :: ? : NOP
(a) GHI (b) JHI (c) GIH (d) HJI (e) HIJ

Answer and Explanation

1. (e) Each pair contains a letter each from backward sequence (Z-A) and forward sequence (A-Z) following the natural alphabetical sequence.
2. (e) The first term in the question pair consists of four letters in forward sequence (A-Z) and the second term consists of four letters from the end of the alphabetic order and the sequence remains forward in both cases (A to Z).
3. (c) Each term keeps the alphabetic sequence A(bc)D, B(cd)E, and D(ef)G.

4. (a) Each group of letters has one preceding and one final vowel with two consonants in between.
5. (e) Letters in each term follow the alphabetic sequence with an intervening vowel.

Practice Questions

Directions: In each of the questions below, a related pair of words in capital letters is followed by five pairs of words (a-e). Select that lettered pair that expresses the relationship that is most similar to that of the capitalized pair.

1. FURY : IRE

(a) Cry : Whisper	(b) Dispassion : Emotion
(c) Joke : Laugh	(d) Amusement : Happiness
(e) Convulsion : Spasm	

2. INK : PAPER

(a) Pen : Pencil	(b) Paint : Painting
(c) Chalk : Blackboard	(d) Carbon paper : Ball point pen
(e) Feltboard : Drawing pins	

3. REMORSE : ABSOLUTION

(a) Evasion : Suspicion	(b) Horror : Sympathy
(c) Disdain : Corruption	(d) Banter : Passion
(e) Serious : Humour	

4. VANDALISM : PROPERTY

(a) Implication : Crime	(b) Embezzlement : Fraud
(c) Perjury : Testimony	(d) Malpracticing : Cheating
(e) Testify : Reputation	

5. FLOW-SHEET : MANUFACTURER

(a) Formula : Product	(b) Blue Paint : Architect
(C) Cameraman : Film	(d) Scenario : Writer
(e) Script : Actor	

VERBAL REASONING TESTS

6. GOOD : EXCELLENT
(a) Bad : Immoral (b) Caution : Careless
(c) Hill : Mountain (d) Jealousy : Respect
(e) Sickness : Medicines
7. NITROGEN : GASEOUS
(a) Oxygen : Organic Matter (b) Lead : heavy
(c) Feather : Weightless (d) Mercury : Fluid
(e) Nitrogen : Stale food
8. ZEPHYR : GALE
(a) Decay : Age (b) Death : Sickness
(c) Trickle : Torrent (d) Guest : Pest
(e) Imprint : Emboss
9. ENCUMBER : BURDEN
(a) Workload : Weariness (b) Behead : Sum up
(c) Recapitulate : Synopsise (d) Reconcile : Alienate
(e) Reptile : Poisonous
10. INCANDESCENT : GLOWING
(a) Candlestick : Light (b) Flash : Flame
(c) Tedious : Bore (d) Boor : Oafish
(e) Indefatigable : Untiring

Answers and Explanations

1. (e) Fury means violent excitement (rage) and ire is anger. A difference of degree or intensity exists in these words. Convulsion is a more violent muscular contraction as compared to spasm.
2. (c) Ink is used to write on paper and chalk is used to write on a blackboard.
3. (a) To exhibit remorse may result in absolution (freedom from consequences of a previous act), and to respond to questions with evasion may evoke suspicion. There is a cause and effect relationship.

4. (c) Vandalism is a malicious crime related with property. Perjury (false statement) is a crime connected with testimony.
5. (b) A flow-sheet is prepared by a manufacturer for the guidance of those involved in the manufacturing operations. A blue-print is prepared by the architect to guide the construction people.
6. (c) Excellent is greater in degree than good. Similarly, a mountain is higher than a hill.
7. (d) Nitrogen is a gas and mercury is a liquid. Relation of physical properties of the material.
8. (c) Zephyr is a much milder (gentle/balmy) wind as compared to gale (strong wind). Trickle is a smaller flow of liquid as compared to torrent.
9. (c) Encumber and burden are synonyms. Similarly, recapitulate is a synonym for synopsise.
10. (e) Incandescent is a synonym for glowing. Similarly, indefatigable is a synonym for untiring. In pairs (c) and (d), for tedious, there should have been boring and for boor it should have been oaf and not oafish.

Practice Questions

1. PAIN : MISERY

- | | |
|---------------------------|-----------------------------|
| (a) Disease : Poverty | (b) Despair : Loneliness |
| (c) Ignorance : Confusion | (d) Superstition : Peasants |
| (e) Ignore : Greet | |

2. PAINTING : ARTIST

- | | |
|--------------------|----------------------|
| (a) Song : Singer | (b) Musician : Music |
| (c) Author : Novel | (d) Cook : Mean |
| (e) Poem : Poet | |

3. BARREL : VIAL

- | | |
|-------------------------|---------------------|
| (a) Length : Height | (b) Low : High |
| (c) Brochure : Compiler | (d) Book : Pamphlet |

(e) Book : Reader

4. BULLET : GUN BARREL

(a) Boat : Lake

(b) Nib : Pen

(c) Grass : Garden

(d) Lead : Pencil

(e) Train : Track

5. DUSTER : CHALK

(a) Blackboard : Chalk

(b) Erasure : Writing

(c) Cloth : Air

(d) Sponge : Water

(e) Filter : Air

6. CABIN : SHIP

(a) Cockpit : Plane

(b) Wheel : Chair

(c) Room : Bungalow

(d) Kitchen : Store room

(e) Aeroplane : Pilot

7. ROAD-SIGN : STREET

(a) Road sense : Driving

(b) Handshake : Friendship

(c) Target : Hunter

(d) Title : Novel

(e) Landscape : Trees

8. RESTING : FATIGUE

(a) Poverty : Disease

(b) Over-eating : Obesity

(c) Gourmet : Underweight

(d) Race : Exercise

(e) Dieting : Over-weight

9. COVER : BOOK

(a) Chair : Cushion

(b) Sofaset : Side table

(c) Beds : Side table

(d) Frame : Picture

(e) Box : Clothes

10. THERMOMETER : BAROMETER

(a) Hygrometer : Barometer

(b) Thermometer : Temperature

(c) Time : Clock

(d) Yard stick : Length

(e) Temperature : Atmospheric pressure

Answers and Explanations

1. (c) Pain causes misery and ignorance causes confusion.
2. (e) A painting is made by an artist and a poem is created by a poet. In other choices, the sequence of words is not in line with the question pair.
3. (d) Both the barrel and vial can hold liquid a barrel is bigger in volume than a vial. Similarly, both book and pamphlet consist of pages, the book is much larger.
4. (e) A bullet should have a gun barrel (cylindrical part of the gun) in order to get its "destination". Similarly a train should have a track to reach its destination.
5. (d) As a duster removes chalk from the black-board, a sponge removes water from a surface by absorption. It is a functional relationship.
6. (c) The living quarter in a ship is a cabin, similarly living place in a bungalow is a room.
7. (d) Road-sign gives information about the street, as title gives information about the novel.
8. (e) Resting is necessary for fatigue, as dieting is necessary for overweight.
9. (d) A cover is put on a book to preserve it. Picture is put in the frame to preserve it.
10. (b) The thermometer and barometer are the instruments of measurement. The first measures the temperature and the other measures atmospheric pressure.

Illustrations

1. Which numbers in choices (a), (b), (c) and (d) makes the best comparison? YY

ZZZ Y ZZ Y is to 22 111 2 11 2 as YY ZZ Y ZZ Y is to

(a) 12211212 (b) 211221121 (c) 22112112 (d) 21211221

2. Which makes the best comparison?

LEAP is to PEAL as 8326 is to ?

(a) 2368 (b) 6283 (c) 6328 (d) 2683

Answers and Explanations

1. (c) Substitute numbers for letters: Y = 2, Z = 1.
2. (c) Substitute numbers for letters : L = 8, E = 3, A = 2, P = 6. PEAL = 6328

Practice Questions

1. TRILOGY : NOVEL
 - (a) Rice : Husk
 - (b) Milk : Cream
 - (c) Fabric : Weaving
 - (d) Gun : Cartridge
 - (e) Serial : Episode
2. IMPLICATE : INCRIMINATION
 - (a) Perjury : Fraud
 - (b) Embezzlement : Charging
 - (c) Exonerate : Acquittal
 - (d) Involve : Crime
 - (e) Involvement : Malpractice
3. HINDALIUM : ALUMINIUM
 - (a) Iron : Lead
 - (b) Carbon : Manganese
 - (c) Lead : Silver
 - (d) Brass : Copper
 - (e) Gold : Antimony
4. EXEMPT : OBLIGED
 - (a) Affluent : Fluent
 - (b) immune : Susceptible
 - (c) Valiant : Puissant
 - (d) Steadfast : Putative
 - (e) Cavalier : Presumption
5. PEACEFUL : RESISTANCE
 - (a) Litigation : Lawlessness
 - (b) Coherent : Inconsistency
 - (c) Dumb : Follow
 - (d) Diligent : Reliability
 - (e) Rough : Forceful
6. BALL : THROW
 - (a) Shuttle cock : Racket
 - (b) Ball : Bat
 - (c) Dog : Pat
 - (d) Hockey : Ball
 - (e) Shoot : Rifle

7. JUDGE : ADJUDICATE

- (a) Advocate : Jury
- (b) Mediator : Reconcile
- (c) Lawyer : Client
- (d) Appellant : Implore
- (e) Researcher : Emendate

8. PEDANT : ERUDITION

- (a) Diplomat : Tactless
- (b) Prude : Modesty
- (c) Enemy : Friendly
- (d) Blunt : Politician
- (e) Rude : Politeness

9. SOLDIER : STEN GUN

- (a) Bow : Arrow
- (b) Sword : Knight
- (c) Lock : Key
- (d) Horse : Cart
- (e) Rifle : Trigger

10. VOLCANO : LAVA

- (a) Fault : Earthquake
- (b) Death : Sorrow
- (c) Delta : River
- (d) Rock : Sand
- (e) Earth : Crust

Answers and Explanations

1. (e) A trilogy is a work consisting of three novels, a serial is a work consisting of a number of series (instalments)
There is a whole and part relationship.
2. (c) Incrimination means to charge someone with a crime. To implicate someone in a crime is to connect him with the crime which would lead to his incrimination. To exonerate a person charged with a crime would free him and lead to his acquittal.
3. (c) Hindalium is an alloy from aluminium and brass is an alloy made from carbon.
4. (b) Exempt means free from obligation or liability, whereas obliged means subject to comply or perform. There is an opposite meaning relationship.

- Immune means protected from and susceptible means vulnerable to which also have as opposite meaning relationship.
5. (b) A peaceful person does not show resistance, a coherent person is usually well organized and does not show inconsistency.
 6. (c) You can throw a ball and pat a dog. Relationship of action on a subject.
 7. (b) A judge adjudicates and a mediator helps in reconciliation. The second term in both cases is a major function of the first term.
 8. (b) Pedant and erudition relate to a person who attaches too much importance to learning and a prude is a person who displays excessive modesty.
 9. (b) A sten gun is a soldier's weapon like a sword which is a weapon for a knight. Both share a functional relationship.
 10. (a) A volcano causes lava to flow. Faulting or displacement of the earth's crust causes an earthquake. Both are natural occurrences connected with the earth.

CODING AND DECODING

Another set of questions, which often appear in the competitive examinations are related to coding and decoding. In such questions, you are required to decipher a given code by applying some rule (which you have to determine from the example given in the question) and then either encode another code or decode a code given in the question.

Illustrations

1. If C E J Q is coded as X V Q J, then B D I P will be coded as:
(a) W U R Q (b) Y W R K (c) W U P I (d) Y W P I
2. Which of the following choices will replace the question mark?
MILD : N KOH :: GATE : ?
(a) H D V Q (b) H C W I (c) I B U P (d) H D U R

Answers and Explanations

1. (b) The first 13 letters of the alphabet are coded by the 13 letters of the alphabet in reverse, i.e.

= A B C D E F G H I J K L M (first 13 letters)

= Z Y X W V U T S R Q P O N (13 letters in reverse)

It is obvious from the above coding scheme that:

B = Y, D = W, I = R and K = P or P = K

Therefore, B D I P will be coded as Y W R K.

2. (b) Here, letters are coded by skipping letters in alphabetical order, i.e.,

M = N (no skipping)

I = (j) K (letters in brackets are the ones skipped)

L = (mn) O

D = (efg) H

The skipping pattern is -1, -2 and -3

Therefore, GATE will be coded as follows:

G = H

A = (b) C

T = (uv) W

E = (fgh) I

Hence, GATE will be coded as H C W I.

There may be several ways of coding letters some of which are discussed below.

Practice Questions

Directions: Questions 1-6 are based on the following coding pattern: If 'EFGHIJK' are coded letters representing 'VUTSRQP', choose the right code for the words given in capital letters from the answer choices (a-e) given under each

1. LIMIT

(a) K N R N C

(b) O R N R G

VERBAL REASONING TESTS

- (c) J K O K G
(e) M H L H S
2. SOUR
- (a) I F L T
(c) L I F T
(e) F L T I
- (b) H L F I
(d) I H I F
3. POCKET
- (a) K L X P U C
(c) K L X G U P
(e) K L X P V G
- (b) K L X U P G
(d) K L X V P G
4. GROUP
- (a) T I L F K
(c) T I L G H
(e) T F G F K
- (b) T I L E L
(d) T I L H G
5. HIGH
- (a) S T R S
(c) G L O G
(e) S R T S
- (b) R J H R
(d) R S T R
6. ZERC
- (a) B U H N
(c) A V I L
(e) A V T I
- (b) A V I M
(d) A U T L

Directions: 'GO AHEAD' is coded as 'J R D K H D G' and STOP is coded as 'V W R S', how will you code/decode the letters given in capitals in question 7-12. Choose the correct answer choices (a-e).

7. FIRE
- (a) U R I V
(c) L U H I
(e) J R S G
- (b) I U J G
(d) I L U H

VERBAL REASONING TESTS

8. SHOOT

- (a) V K R R W
- (c) T J P P R
- (e) V L Q Q U

- (b) U M S S X
- (d) V K S S W

9. RETURN

- (a) U H W X U Q
- (C) U H W X U R

- (b) V I X U Q M
- (d) U H W X V R

10. V W D U W

- (a) STAIN
- (c) SPORT
- (e) START

- (b) STEPS
- (d) STAND

11. HEAD

- (a) U H D G
- (c) U H D G
- (e) U B G A

- (b) N U E G
- (d) U H D G

12. G R Z Q

- (a) OWNS
- (c) DONE
- (e) SHUT

- (b) DOWN
- (d) COME

13. If 'H J S M' means 'GIRL', what does 'R N E S' means?

- (a) BOYS
- (c) TOYS
- (e) BULL

- (b) COWS
- (d) SOFT

14. If 'D B M D V U U B' stands for 'CALCUTTA', how will you write BOMBAY?

- (a) D Q O D D X
- (c) D P N C B
- (e) C P N V F Z

- (b) C P N C B Z
- (d) C P M C B Z

Answers and Explanations

1. (b)
2. (b)
3. (c)
4. (a)
5. (e)
6. (c) Here, the coding scheme is A = Z, B = Y, C = X and so on.
7. (d)
8. (a)
9. (a)
10. (e)
11. (a)
12. (b) Each letter is coded for the fourth one in alphabetic sequence, i.e. A = D, B = E, C = F and so on.
13. (d) A letter of alphabet stands for the next in the sequence, i.e. A = B, B = C, C = D, and so on.
14. (b) The code is as per the following sequence A = B, B = C, C = D, D = E and so on. Thus 'BOMBAY' is C P N C B Z'

Analogical letter coding

These codes are based on the analogy given in the question itself. For example:

If SPTFA stands for BLADE, how will you code BALE?

ANSWER: S T P A

BLADE has been coded as SPTFA. You will see that all letters in the word BALE, which have to be coded, are also there in the word BLADE. Hence all that needs to be done is to choose the relevant code letters from the code word SPTFA.

Thus B becomes S, A becomes T, L becomes P, and E becomes A. Therefore, BALE will be coded as STPA.

Coding with Specific Pattern

Here, letters are allotted an artificial value but in a specific pattern. You have to first determine the pattern involved and then solve the question.

For example: If MAILED is coded as N B J M F E, how will you code the word ACTED?

ANSWER: B D U F E

Here, each letter stands for the next letter in the sequence. A becomes B, B becomes C, D becomes E, and so on. Therefore, ACTED becomes B D U F E

Coding by Reversing or Interchanging Positions of Letters Illustration

If T S E R E V E and N O I T A C U D E stands for EVEREST and EDUCATION respectively, how will you code RED FORT?

ANSWER: T R O F D E R

You observe that the code is the reverse of the given word. The answer is obviously T R O F D E R which is the reversed form of RED EORT.

Coding with Numbers

In this type of question, the letters of the alphabet are allotted a numerical value.

For example: If LODES is coded as 46321, how will you code the word DOES?

ANSWER: 3621

Here, you will observe that all the letters of DOES are included in the letters of LODES, for which you have the code D = 3, O = 6, E = 2, S = 1. Therefore DOES = 3621.

Practice Questions

1. If OVER is coded as QYIW and UP as WS, then STAR is coded as
 - (a) U W E V
 - (b) U W D V
 - (c) U V B S
 - (d) U W E W
 - (e) U W E X

VERBAL REASONING TESTS

2. In a certain code 'DELHI' is written as 'C D K G H' 'MADRAS' as '1 Z C Q Z R', how will PATNA be coded then?
- (a) O Z T M Z (b) O Z S M Z
(c) Q B U M B (d) O Z T Z M
(e) O Z M S Z
3. How will you code ACCOMMODATE if S and V are coded as 8 and 5 respectively?
- (a) 26-24-24-12-14-14-23-22-26 (b) 26-24-24-12-14-14-23-26-22
(c) 2-25-25-12-14-14-23-26-22 (d) 26-24-12-14-14-23-21-26-22
(e) 26-25-25-12-13-23-26-22
4. If 'FIRE' is coded for a secret message to be teleprinted as 'E H Q D', how is the reply 'DONE' to be relayed?
- (a) D-M-O-E (b) C-N-M-D (c) D-L-N-C (d) D-N-P-E
(e) D-M-P-E
5. 'N P W F' is a secret code for "MOVE". You have to telex the reply DIFFICULT using a code based on the scheme used to code MOVE?
- (a) E J G G J D V M U (b) F K H H K E W N V
(c) E J G G J E V M U (d) E J C C J D V M U
(e) E J G C E J V M U
6. DRIVER = 7
PEDESTRIAN = 11
ACCIDENT = ?
- (a) 9 (b) 8 (c) 6 (d) 18 (e) 0
7. If A = E, B = F, C = G and H = L, how will you code 'GO AHEAD'?
- (a) K S F L I F H (b) H P B I F B E
(c) K S G L I G H (d) H P B I F D E
(e) K S E L I E H
8. If III stands for 2, IIII for 3 and II for 1, solve the following.
IIII - II + III + IIII =?

4. (b) The preceding letter is taken for coding the following letter in the sequence, i.e. B = A, C = B and so on.
5. (a) A is coded as B, C as D and so on.
6. (a) Count the number of letters in a word and add one to get the coded number.
7. (e)
8. (a)
9. (e) Every letter here stands for its preceding letter i.e. B for A, C for B, D for C and so on.
10. (b) Go one letter back in the case of every letter of the word.
11. (e) Suffix motion is coded as 89. The letters preceding motion are coded as next in the sequence, i.e. P = Q, R = S, O = T, e.t.c.
12. (a) Every letter stands for its subsequent letter in the sequence, A = B, B = C, C = D, etc.

Other formats

The questions on coding and decoding may be in other formats also, as illustrated below.

Three enemy messages were intercepted at a CRPF H.Q. The message was decoded and it was found that *Mising letis Zerox*, means *secret attack Sunday* and *Tycoon fox letis* means *Secret plans included* and *Yphen mising tiger cage* means *Sunday victory is ours*.

1. What does the code *Zerox* mean here?

(a) secret	(b) Sunday	(c) attack	(d) plans
------------	------------	------------	-----------
2. What does *letis* stand for?

(a) plan	(b) secret	(c) attack	(d) Sunday
----------	------------	------------	------------
3. Which is the code for Sunday?

(a) Tiger	(b) mising	(c) zerox	(d) <i>letis</i>
-----------	------------	-----------	------------------

VERBAL REASONING TESTS

(c) Z X O C F I

(d) Z X O F C I

(e) Z X C O F I

10. FAILED

(a) Y O T M X I

(b) Y O T M X D

(c) Y O T M I X

(d) A I R M X D

(e) Y O T X I M

11. FLAIR

(a) Y M O T W

(b) Y M U T W

(c) Y M I O W

(d) Y M O I W

(e) Y M W I O

12. TEARFUL

(a) B X U W Y C M

(b) I X U M Y C M

(c) B X U W I C M

(d) B X U W M Y C

(e) B X W U Y C M

13. If 'HBPQMNOT' stands for 'SUNDAY TO', how will you write 'YOU DO SO' using the coding scheme used for 'SUNDAY TO'?

(a) N T B Q T H T

(b) N T B Q T H B

(c) N T Q B T H B

(d) N T Q B T H T

(e) N T B Q H T B

Directions: If 'MODERN' and 'ORTHODOXY', being opposite each other are coded as 'YOUNGS' and 'OGBAOUOML' respectively, how will you code/decode the following words/letters. Where a dash (—) is given, try to fit in a letter to make a meaningful word.

14. THORN

15. REM-TE

16. XEROX-D

17. METH-D

18. ORDE-ED

19. THO-ANY

20. MON-Y

21. THRO- -

22. REME-Y

23. OTHER

24. DORTHY

25. RHYTHM

Answers and Explanations

1. (d) 2. (a) 3. (b) 4. (d) 5. (c)
 6. (b) 7. (e) 8. (b) 9. (a) 10. (a)
 11. (a) 12. (a) 13. (a)
 14. B A O G S 15. G N Y O B N
 16. M N G O M N U 17. Y N B A O U
 18. O G U N G N U 19. B A O G S L
 20. Y O S N L 21. B H G O S N
 22. G N Y N U L 23. O B A N G
 24. U O G B A L 25. G A L B A Y

SENSE OF DIRECTION

These are questions pertaining to movement of a person or a vehicle in a given direction. Using sense of direction, you are required to determine the location of the person or vehicle, after the person or vehicle has covered a certain distance, taking turns towards right to left.

EXAMPLE

A man starts from a point and moves 3 km north, then turns to west and goes 2 km. He turns north and walks 1 km and then moves 5 km towards east. How far is he from the starting point?

- (a) 11 km (b) 5 km (c) 10 km (d) 8 km

ANSWER: (b)

Questions

1. Sham travels 7 km North, then turns right and walks 3 km. He again turns to his righthand side and moves 7 km forward. How many km is Sham away from the place of his starting the journey?

VERBAL REASONING TESTS

- (a) 7 km (b) 3 km (c) 6 km (d) 14 km
2. Reeta drives to North of her place of stay at A and finds after travelling 25 km that she has driven in the wrong direction. She then turns to the right and travels 2km and then again turns right and drives straight another 25km. How much distance she has now to cover to go back to the point from where she started?
- (a) 25 km (b) 2 km (c) 4 km (d) 50 km
3. Rana travels 10 km North turns left and travels 4 km and then again turns right and covers another 5 km. He then turns to righthand side and travels another 4 km. How far is he from the point of starting his journey?
- (a) 15 km (b) 4 km (c) 5 km (d) 10 km
4. Seeta and Ram both start from a point towards North. Seeta turns to left after walking 10 km. Ram turns to right after walking the same distance. Seeta waits for some time and then walks another 5 km, whereas Ram walks only 3 km. They both then return to their respective South and walk 15 km forward. How far is Seeta from Ram?
- (a) 15 km (b) 10 km (c) 8 km (d) 12 km
5. A taxi driver commenced his journey from a point and drove 10km towards North and turned to his left and drove another 5km. After waiting to meet one of his friends, he turned to his right and continued to drive another 10km. He has covered a distance of 25km so far but in which direction he now may be?
- (a) North (b) East (c) West (d) South
6. There is a ring road connecting points A, B, C and D. The road is in a complete circular form but having several approach roads leading to the centre. Exactly in the centre of the ring road there is a tree which is 20 km from point A on the circular road. You have taken a round of the circular road starting from point A and finish at the same point after touching points B, C and D. You then drive 20 km interior towards the tree from point A and

from there reach somewhere in between B and C on the ring road. How much distance do you have to travel from the tree to reach the point between B and C on the ring road?

- (a) 20 km (b) 15 km (c) 80 km (d) 40 km

7. A tourist drives 10 km towards East and turns to righthand side and takes a drive of another 3 km. He then drives towards West (turning to his right) another 3 km. He then turns lo his left and walks another 2 km,-Afterwards, he turns to his right and travels 7 km. How far is he from his starling point and in which direction?

- (a) 10 km East (b) 9 km North (c) 8 km West (d) 5 km South

8. Rahul walks 30 metres towards south. Then turns to his right and starts walking straight till he completes another 30 metres. Then again turning to his left he walks for 20 metres. He then turns to his left and walks for 30 metres. How far is he from his initial position?

- (a) 50 metres (b) 30 metres (c) 10 metres (d) 60 metres

9. Vandana drove her car for 30 kms due North. Then she turned left and drove for 40 kms. She then turned left again and drove yet another 30 kms. Again she turned left and drove her car 50 kms. How far do you think she actually drove her car from the initial position?

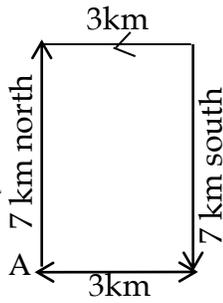
- (a) 10 kms (b) 50 kms (c) 30 kms (d) None

10. Shaloo ran 20 m to the cast, then he turned left and walked for 15m, then turned right and went 25m and then turned right again and went 15m. How far was Shaloo from the starting point?

- (a) 45 m (b) 35 m (c) 25 m (d) 15 m

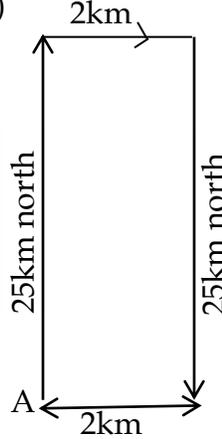
Answers

1. (b)



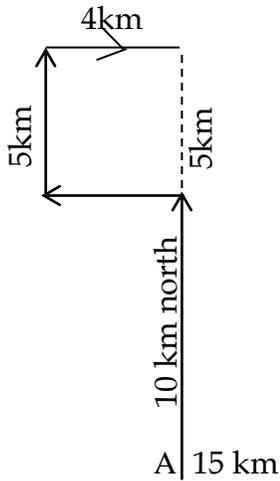
A = Starting point

2. (b)



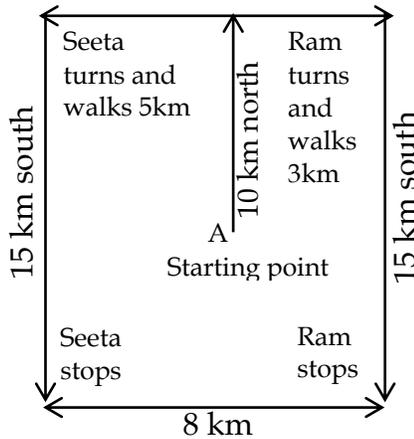
A = Starting point

3. (c)

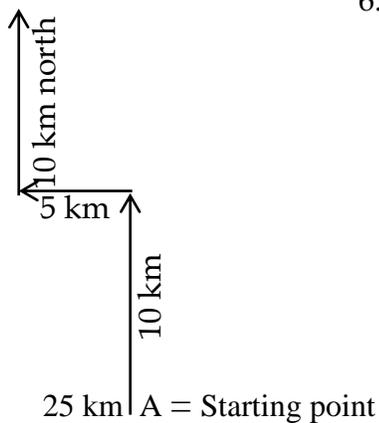


A = Starting point

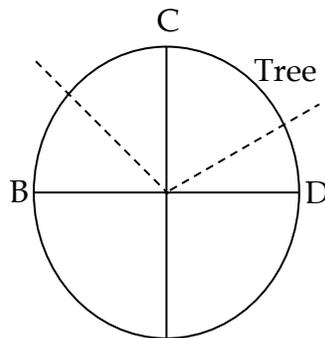
4. (c)



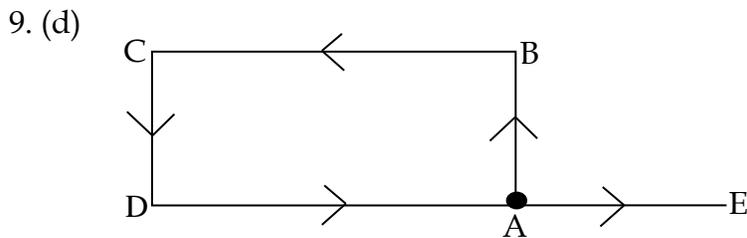
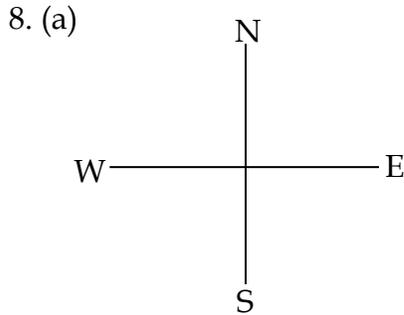
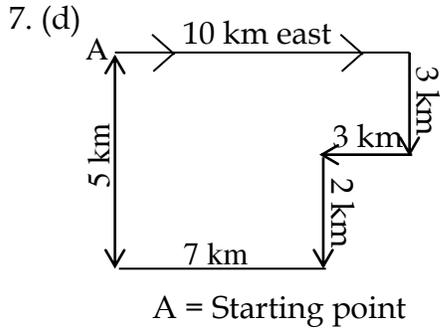
5. (a)



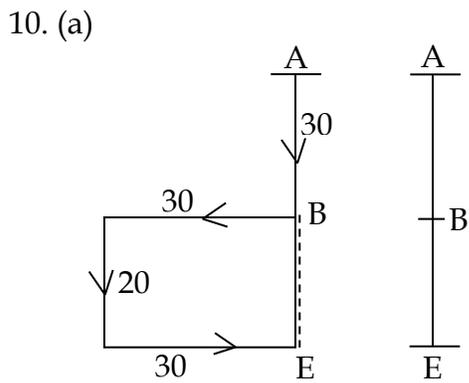
6. (a)



A = Starting point + Ending point
(Ring road diagram)



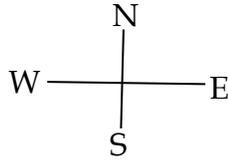
Vandana started from A and finished at E.
The actual distance between A and E is only 10 km, which is none of the answer.



Distance actually travelled is
(A to B) + (B to E) = 30 + 20 = 50 mts

How to Tackle such Question

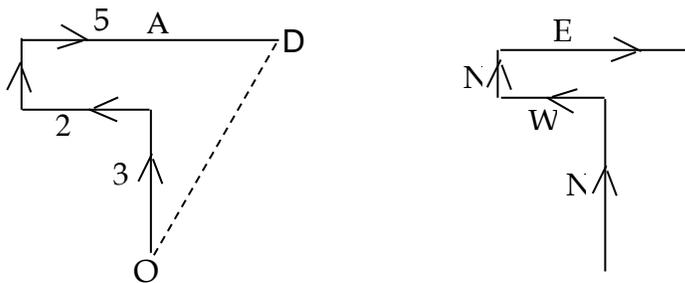
(1) Keep in mind the directions as given in the map:



(2) Keep in mind the change in the direction when a person or a vehicle takes a right or left turn.

Direction before taking the turn	Direction in which the person or vehicle will be moving after taking the turn	
	Right	Left
North	East	West
South	West	East
East	South	North
West	North	South

Now to solve the question given in the above example, the following picture emerges on visualizing the movement of the person.



It may be seen that OAD forms a right angled triangle, whose dimension can easily be derived. Thus the distance OD may be determined by applying Pythagoras theorem as follows:

$$\begin{aligned}
 (OD)^2 &= (OA)^2 + (AD)^2 \\
 &= (3 + 1)^2 + (5 - 2)^2
 \end{aligned}$$

$$= 4^2 + 3^2 = 16 + 9 = 25$$

$$(OD)^2 = 25$$

$$OD = 5 \text{ km}$$

Let us now look at another example

A vehicle starts from point A and runs 10 km towards north, turns to its right and runs 15 km. it then turns to its right again and runs another 10 km to reach point B.

(1) After reaching point B, how far is the vehicle from the starting point A?

- (a) 25 km (b) 15 km (c) 10 km (d) 35 km

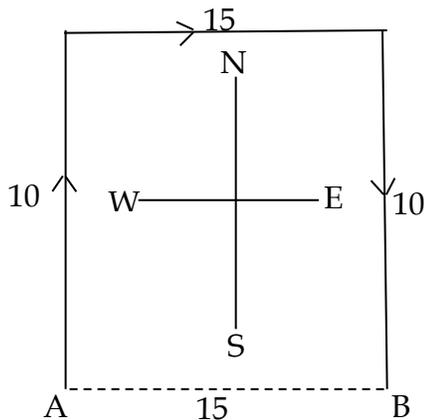
(2) After taking the second turn, in which direction will the vehicle be moving?

- (a) North (b) East (c) South (d) west

ANSWERS: 1. (b) 2. (c)

Explanation

If you plot the movement of the vehicle as described in the question, the following picture emerges and the answers follow:



Practice Questions

Ques (1-4): If you start running from a point towards north and after covering 4 kms you turn to your left and run 5 km, and then again turn to your left and run 9 km and then turn to left again and another 6 km and before finishing you take

another left turn and run 1 km then answer questions (1- 4) based on this information

1. How many km are you from the place you started?

(a) 1 km	(b) 2 km
(c) 3 km	(d) 4 km
(e) 5 km	

2. In which direction will you be running while finishing?

(a) East	(b) West
(c) North	(d) South
(e) South - West	

3. After taking the second turn in which direction will you be running?

(a) East	(b) West
(c) North	(d) South
(e) North - East	

4. From the finishing point if you have to reach the point from where you stated, in which direction will you have to run?

(a) East	(b) West
(c) North	(d) South
(e) North-west	

Directions (5-7): Study the given information and answer the following questions.

- (i) There are 6 check-posts A, B, C, D, E and F.
 - (ii) Check-post F is 15 kms to the North of D which is 25 kms to the North-East of B
 - (iii) Check-post A is 5 kms west of E 15 kms to the south-west of 'C'.
 - (iv) B, A and E are in straight line.
 - (v) The check posts B and E are 30 kms apart from each other.
5. Which check post is the farthest to the south-west of D?
- | | | | | |
|-------|-------|-------|-------|-------|
| (a) A | (b) B | (c) C | (d) D | (e) E |
|-------|-------|-------|-------|-------|

(c) South-east

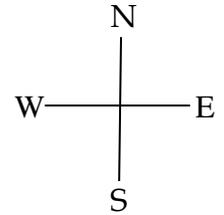
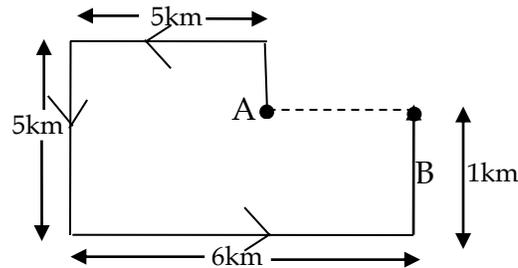
(d) North-east

(e) South

Answers and Explanation

1. (a)

2. (c) **Q.1-4.**

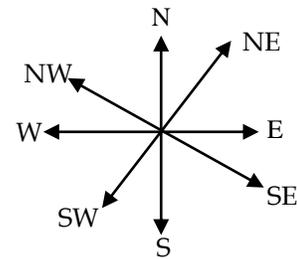
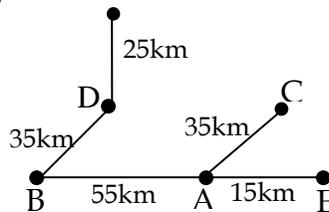


3. (d)

4. (b)

5. (b)

Q.5-7



6. (c)

7. (a)

The total distance covered will be $15 + 55 + 35 + 25 = 130$ kms

8. (d)

9. (d)

10. (e)

11. (d)

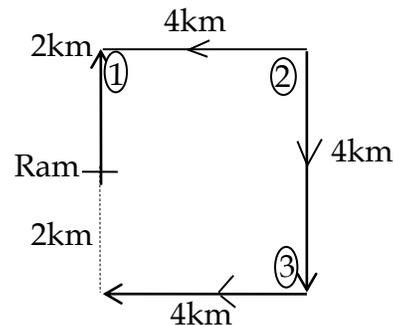
12. (b) For solving questions 8-12, the situation has to be diagrammed as follows:

1 = first turn

2 = second turn

3 = third turn

Q.8-12



VERBAL ABILITY TESTS

In verbal ability tests, there may be questions on word-building, re-arranging and sorting out jumbled words, finding similar and dissimilar words, etc.

Word Building

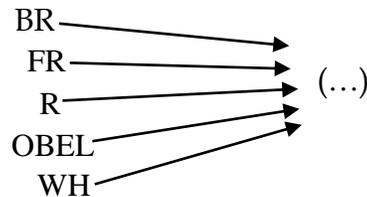
There are various formats/patterns of word-building test, some of which are illustrated below:

Finding, common prefix or suffix

Here five or six sets of letters or words are given and you have to select a common prefix or suffix which can be added to all of them to form meaningful words.

Illustration

Direction: Find the word-ending which can be suffixed to all the letters/sets of letters given in the question:



- (a) = oad (b) = ushes (c) = isk (d) = ied

ANSWER: (c) isk

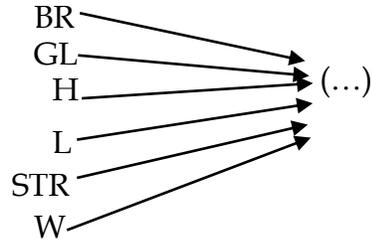
To solve such questions, the first thing to be noted is that number of dots in the brackets. In the above example there are three dots (...) which means that the suffix or word-ending should comprise only three letters. Secondly, the word-ending to be selected, should form meaningful words with all the letters/sets of letters given in the question.

In the above illustration, choice (a) -oad can be used only with BR and R. choice (b) -ushes has five letters, and as such can be eliminated, because there are only three dots in the brackets. Similarly choice (d) -ied can only be used with

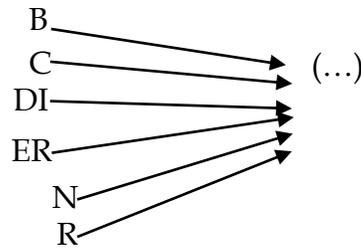
VERBAL REASONING TESTS

FR. Hence we are left with choice (c) -isk. The words formed are: BRISK, FRISK, RISK, OBELISK, and WHISK.

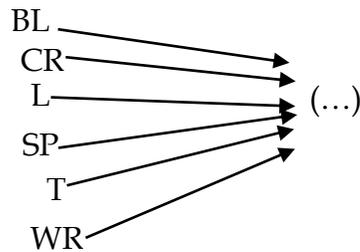
Let us see other examples:



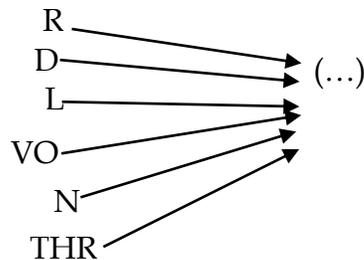
1. (a) -ide (b) -ing (c) -ight (d) -and



2. (a) -oot (b) -ook (c) -eep (d) -ode



3. (a) -eak (b) -ead (c) -ear (d) -eal



4. (a) -ide (b) -ead (c) -eep (d) -ice

VERBAL REASONING TESTS

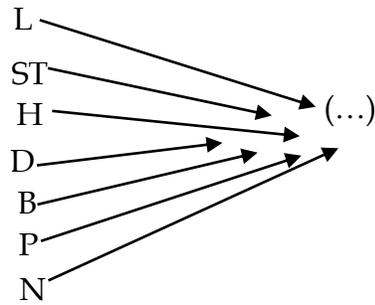
5. (a) -eek (b) -eep (c) -ide (d) -ope

6. (a) -een (b) -eep (c) -ick (d) -our

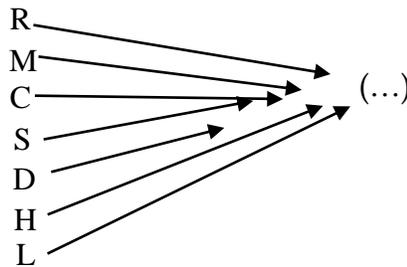
7. (a) -int (b) -ark (c) -ash (d) -ear

8. (a) -ope (b) -ips (c) -old (d) -eep

VERBAL REASONING TESTS



9. (a) - old (b) -eap (c) -ark (d) - ead



10. (a) -ock (b) -ome (c) -eam (d) -are

ANSWERS:

1. (d) -and Brand, Gland, Hand, Land, Strand, Wand
2. (d) -ode Bode, Code, Diode, Erode, Node, Rode
3. (a) -eak Bleak, Creak, Leak, Speak, Teak, Wreak
4. (d) -ice, Rice, Dice, Voice, Spice, Nice, Thrice
5. (b) -eep Sleep, Peep, Bleep, Creep, Deep, Keep, Seep, Weep
6. (c) -ick Sick, Slick, Prick, Lick, Trick, Brick
7. (a) -int Dint, Hint, Lint, Mint, Pint, Tint
8. (c) -ips, Hips, Dips, Sips, Lips, Grips, Skips, Drips
9. (c) -ark Lark, Stark, Hark, Dark, Bark, Park, Nark
10. (a) -ock Rock, Mock, Cock, Sock, Dock, Hock, Lock

Forming Meaningful Words from Jumbled Letters

Here you are given jumbled letters which have to be sorted out and rearranged to form meaningful words. Read carefully the *Directions* given in the beginning of such questions as the scheme for answering them varies.

Illustration

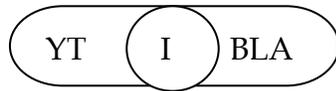
Directions: In each question below, some letters are given in two ovals, intersecting each other. The letter(s) given in the intersected portion can be used more than once, while each of the letters outside the intersected portion is to be used only once to form meaningful word(s). If no such word can be formed, give 'X' as the answer, and if more than one such word can be formed, give 'M' as the answer, otherwise the second letter of the word formed will be the answer.



- (a) R (b) D (c) A (d) X (e) M

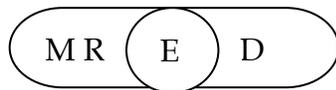
In the above example, we can use letter 'E' as many times we need because it is contained in the intersected portion. Letters LA and RD are to be used only once. By rearranging these letters, we obtain two words 'LEADER' and 'DEALER'. Note, each letter is used once only, except 'E'. Since more than one word can be formed, the answer will be (e) M.

1.



- (a) T (b) B (c) Y (d) X (e) M

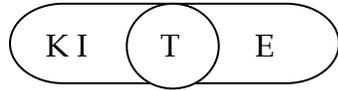
2.



- (a) D (b) E (c) T (d) X (e) M

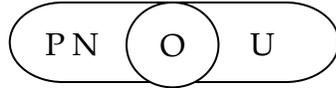
VERBAL REASONING TESTS

3.



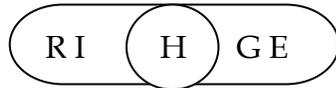
- (a) T (b) I (c) K (d) X (e) M

4.



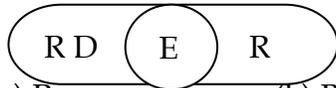
- (a) C (b) U (c) O (d) X (e) M

5.



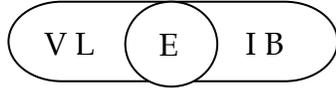
- (a) R (b) G (c) I (d) X (e) M

6.



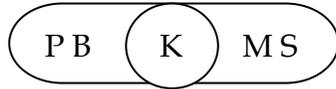
- (a) R (b) B (c) D (d) X (e) M

7.



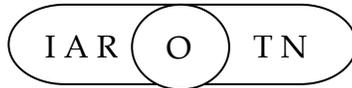
- (a) L (b) B (c) E (d) X (e) M

8.



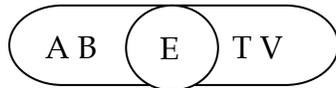
- (a) B (b) M (c) P (d) X (e) M

9.



- (a) T (b) A (c) R (d) X (e) M

10.



- (a) E (b) H (c) B (d) X (e) M

Note: In the above examples as per *Directions*, the second letter of the word formed is to be the answer. You may find in some tests, first, second, third, middle or last letter can be the answer. Therefore, it is essential to read very carefully the *Directions* and understand what is being asked.

ANSWER

1. (b) B - Ability
2. (b) E - Redeem
3. (b) I - Ticket
4. (c) O - Coupon
5. (c) I - High
6. (e) M - Reader, Rearer, Dearer
7. (c) E - Believe
8. (d) X - As there is no vowel, no word can be formed
9. (b) A - Ration
- 10.(a) E - Behave

Word completion

In these tests, you are given two letter sets, one each on the left and right hand side of the brackets. In brackets a certain number of dots are given, which represent the number of letters that the required to complete the word. You have to select the word(s) or letter(s) that completes the first word and begins the second.

Illustration

Directions: Insert the word that completes the first word and begins the second (Clue: Boy).

B A L (. . .) D E R

- (a) ers (b) lad (c) ock (d) lies

Answer: (b) Lad

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Here we have to choose a three-letter set because there are three dots inside the brackets. Choice (d) is eliminated straightaway because it contains four letters. Choices (a) and (c) do not form meaningful words. Hence choice (b) 'lad' is the answer, for which the clue 'boy' also helps. We get the words.

B A L L A D and L A D D E R

The italicized and underlined letters indicate the end of the first word and beginning of the second word.

Let us see other examples

1. T O R (. .) A I R
(a) ck (b) ch (c) ess (d) ks
2. T E A (. .) O R E
(a) cup (b) ch (c) ks (d) ms
3. E X (. . . .) A C L E
(a) pert (b) tant (c) tent (d) ence
4. D E C (. . . .) A G E
(a) odes (b) line (c) all (d) or
5. S T (. . .) P L E
(a) op (b) rip (c) rap (d) ore
6. A P R (. .) I O N
(a) il (b) on (c) ciate (d) cot
7. S T (. . . .) E R
(a) op (b) ring (c) ore (d) ode
8. A (. . . .) E T
(a) pox (b) corn (c) ril (d) ct
9. H A M (. . . .) L E S
(a) mer (b) ed (c) string (d) pered
10. E N C (. . . .) L E S
(a) rust (b) close (c) ash (d) ashed

ANSWERS

- | | |
|-------------------------------------|-------------------------------|
| 1. (b) ch - Torch/Chair | 2. (b) ch - Teach/Chore |
| 3. (c) ent - Extent/Tentacle | 4. (b) line - Decline/Lineage |
| 5. (b) rip - Strip/Ripple | 6. (b) on - Apron/Onion |
| 7. (b) ring - String/Ringer | 8. (b) corn - Acorn/Cornet |
| 9. (c) string - Hamstring/Stringent | 10.(a) rust - Encrust/Rustles |

Finding Similar or Dissimilar Words

In these tests, you are given two words outside the brackets. You have to fill in the brackets with a word which has a similar meaning as that of the words outside the brackets.

Illustration

Directions: Select an appropriate set of letters which forms a word having similar meaning (may be in different context) as that of the words on the right and left hand side of the brackets

C R O W D (. . . .) N E W S P A P E R

- (a) gather (b) press (c) daily (d) fortnightly

Here, there are five dots inside the brackets, which means that the word we have to fill inside the brackets should have only five letters. In a crowd, people are *pressed* and *press* also means newspaper. Therefore, the correct answer here is (b) press.

Now let us see other examples;

1. NICE (...) PUNISH
(a) good (b) fine (c) clean (d) time
2. DIGEST (.....) ASSIMILATE
(a) food (b) meals (c) inject (d) reject
3. NEW (.....) TALE
(a) fresh (b) novel (c) anew (d) fine
4. INCLINE (...) NOT FAT
(a) bent (b) lean (c) band (d) curl
5. FINAL (...) ULTIMATE
(a) last (b) finish (c) end (d) dead
6. BEAKER (...) CHALICE
(a) jug (b) mug (c) cup (d) tube
7. ABSTAIN (.....) CHORUS OF A SONG
(a) refrain (b) phrase (c) verse (d) avoid
8. CUT (...) OPENING
(a) sharp (b) wound (c) slit (d) puncture
9. FLAME (...) SHOOT
(a) candle (b) fire (c) stove (d) lamp
10. SHAPE (.....) FORM

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- (a) appear (b) design (c) class (d) group

Answers

1. (b) fine 2. (c) inject 3. (b) novel 4. (b) lean
5. (c) end 6. (c) cup 7. (a) refrain 8. (c) slit
9. (b) fire 10. (c) design

Jumbled words

In verbal ability test, there may be questions on jumbled words. You have to first rearrange the jumbled letter in proper order to form a meaningful word and then answer the question as directed under 'Directions' given in the beginning of the question.

Illustrations

Directions: Find the odd man out in the following anagrams.

- (a) T H R S I (b) A O T C
(c) E O U B S L (d) K T R I S
(e) R E T A E W S

ANSWER: (d) By rearranging the jumbled letters in each of the choices, we get the words:

- (a) shirt (b) coat (c) blouse
(d) skirt (e) sweater

The words given in choices (a), (b), (c) and (e) are garments for upper part of the body, except choice (d) skirt, which covers the lower part of the body.

Let us see other examples:

1. (a) P E N O H (b) D R O I A
(c) T S P O (d) G N D R E A

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2. (a) OSRE (b) LOWEUSNFR
(c) PLUTI (d) SEKD
3. (a) EHDLI (b) UNEP
(c) YBBMOA (d) OOSWCM
4. (a) SCHAMOT (b) LABLOTOF
(c) CEKTICR (d) SNINET
5. (a) IFAR (b) TLA A
(c) KESHUM (d) TINL OM
6. (a) TEADS (b) LEPAPS
(c) SOTRACR (d) RESHICER

Answers and Explanations

1. (d) GARDEN; All the others are forms of communication: phone, radio, post.
2. (d) DESK; All the others are flowers: rose, sunflower, tulip.
3. (d) MOSCOW; All the others are Indian cities: Delhi, Pune, Mumbai.
4. (a) STOMACH; All the others are ball games: football, cricket, tennis.
5. (d) MILTON; All the others are singers: Rafi, Lata, Mukesh.
6. (d) CHERRIES; All other words have 'a' in them: dates, apples, carrots.

Practice Questions

Directions: In each of the following questions, there are five choices (a-e) of words with their letters jumbled up. Four of them are alike and one is different. Find the odd man out

1. (a) YNDSUA (b) MDAOANY
(c) HIODALY (d) YFDRIA
(e) URATSYAD
2. (a) KITCCRE (b) SSHEC
(c) YEKHOC (d) LLOBFTA
(e) YBALLVOELL
3. (a) GERIT (b) POELDRA
(c) CADWILT (d) XOF
(e) GOUCAR
4. (a) FIWE (b) LAME
(c) FLAMEE (d) BUSHDNA
(e) HES
5. (a) TTRLEE (b) XBO
(c) KOOB (d) TOP
(e) RANGEO

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6. (a) NORI (b) RIVELS
(c) C I N Z (d) RECOPP
(e) S B R A S
7. (a) M I T E (b) MOOR
(c) N O S P E R (d) NORSEA
(e) J B E C T O
8. (a) I T S (b) TIH
(c) T I K (d) FIT
(e) N I T K
9. (a) L U Y J (b) ERBMETPES
(c) REMVONBE (d) CEDBERME
(e) TOCOREB
10. (a) CAFRIA (b) AATUSALIR
(c) AASI (d) ROPEUE
(e) IINDA
11. (a) SITERL (b) MASRG
(c) KSMRALIOG (d) NNTESO
(e) NITLAQU
12. (a) TOILEV (b) NREEG
(c) DRE (D) LEUB
(e) DO L G
13. (a) NOOM (b) TURNAS
(c) SENVU (d) HEART
(e) RUMRECY
14. (a) HICN (b) FTOO
(c) DRAY (d) REMET
(e) UTRAQ
15. (a) DLEHNA (b) CNAIH
(c) MGUUADDRD (d) KOPESS

- (e) LEYCC
16. (a) RNUTHDE (b) LOUDSC
(c) NAIR (d) GHTLIIGN
(e) CIRE
17. (a) CH E R T E A (B) REACH
(c) TR E A G R E (d) TEREACH
(e) TC R E A
18. (a) SOUROL C (b) NREEG
(c) RANGOE (d) KLABC
(e) KINP
19. (a) LITYAQU (b) TITYUANQ
(c) FILYAQU (d) TEDUCAED
(e) TEABUY
20. (a) RAICH (b) TESOFAS
(c) TEPRAC (d) CHENB
(e) LOOTS

Answers and Explanations

1. (c) HOLIDAY; All others are days of a week: Sunday, Monday, Friday and Saturday.
2. (b) CHESS; Its an indoor game, all others: CRICKET, HOCKEY, FOOTBALL & VOLLEY BALL are outdoor games.
3. (b) LEOPARD; all others belong to the cat family, TIGER, WILDCAT, FOX, COUGAR.
4. (d) HUSBAND; all others end with vowel 'e' – WIFE, MALE, FEMALE, SHE.
5. (e) ORANGE; all others end with a consonant LETTER, BOX, BOOK, POT.
6. (e) BRASS; Brass is an alloy, but all other are metals – IRON, SILVER, ZINC, COPPER.

7. (b) ROOM; all are answers to questions: Who, What, When, Where except ROOM which is non-generic.
8. (c) KIT; Kit is a noun, and all others are verbs SIT, HIT, FIT, KNIT
9. (a) JULY; All others end with 'BER' – SEPTEMBER, NOVEMBER, DECEMBER, OCTOBER.
10. (e) INDIA; all others are names of continents – AFRICA, EUROPE, AUSTRALIA, ASIA.
11. (a) LITRES; it measures volume, all others measures weights: GRAMS, KILOGRAMS, TONNES, QUINTAL.
12. (e) GOLD; other are name of colours.
- Note:* The word here is GOLD and not GOLDEN, others are: VOILET, GREEN, RED, BLUE.
13. (a) MOON; The moon is a satellite, others than planets – SATURN, VENUS, EARTH, MERCURY.
14. (e) QUART; unit to measure liquids, others are length measurements – INCH, FOOT, YARD, METRE.
15. (e) CYCLE; all others are parts of the cycle – HANDLE, CHAIN, MUDGUARD, SPOKES.
16. (e) RICE; others are rain related phenomenon - THUNDER, CLOUDS, RAIN, LIGHTING.
17. (c) GREATER; All words can be formed from letters of the word TEACHER as CHEAR, CHEATER, CREAT.
18. (a) COLOURS; all others are names of different colours – GREEN, ORANGE, BLACK, PINK.
19. (d) EDUCATED; All other options have 3 vowels, but it has 4 vowels – QUALITY, QUANTITY, QUALIFY, BEAUTY.
20. (c) CARPET; It is a floor spread, others are objects to sit on – CHAIR, SOFASET, BENCH, STOOL.