Analogy and Classification

INTRODUCTION

Analogy is a comparison between two things. Which may be quite different from each other. An analogy looks at complex subjects and simplifies them through comparison. The simplified or more familiar aspect of an analogy helps a student to understand the more complex concept. In such type of problems, a particular relationship is followed between two pair of letter/number/figure are given on either side of ':::'. Student has to identify the relationship and choose the correct answer from the given four options.

We classify various items into a group on the basis of their common properties. These items may be letters/numbers/figures/things. In such type of problems, some items are given. All these items except one are similar in some manner. A student is required to identify the odd one out. Now, let us have a look on some examples discussed below:

Example 1. Letter : Word :: Page : ?
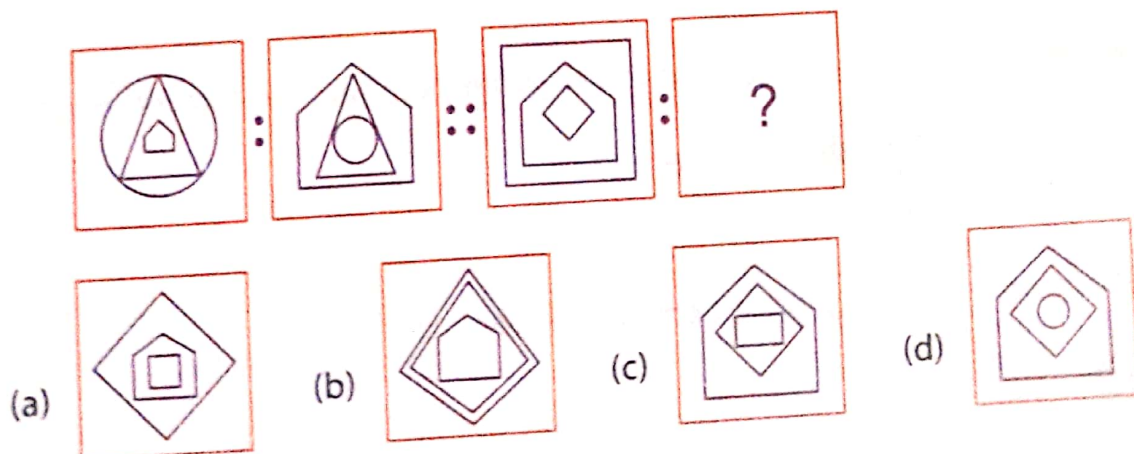
(a) Ink   (b) Pen   (c) Book   (d) Paper

Explanation: (c): As Word is a group of letters similarly Book is a group of pages.

Example 2. 237 : 732 :: 475 : ?
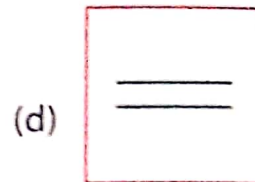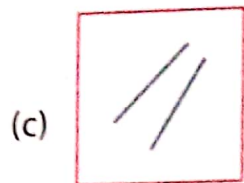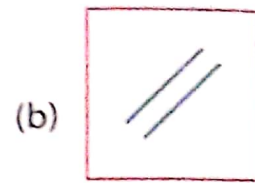
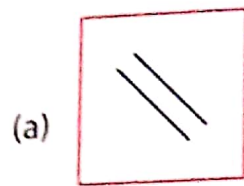(a) 957   (b) 574   (c) 832   (d) 858

Explanation: (b): The digits of the number are in reverse order.

**Example 3.** Choose the correct option which would replace the question mark(?).
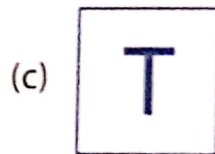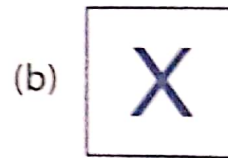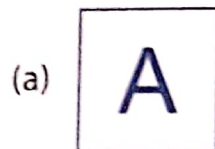
Explanation: (a): The innermost figure becomes the outermost figure while the outermost figure becomes the innermost figure.

Example 4. Choose the figure that is different from the rest.

(a)

(b)

(c)

(d)

Explanation: (c): Except (c), the two line segments are parallel to each other in all the figures.

Example 5. Find the odd one out in the given figures.

(a) A

(b) X

(c) T

(d) V
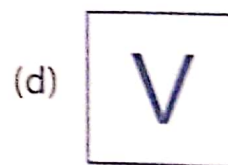
Explanation: (a): Except figure in option (a), all other are formed from two straight line.

Example 6. Find the odd one out in the given number series.

(a) 832   (b) 238   (c) 274   (d) 382

Explanation: (c): Except option (c), all other numbers are formed by the digits 2, 3 and 8

Example 7. Find the odd one out.

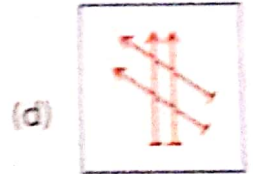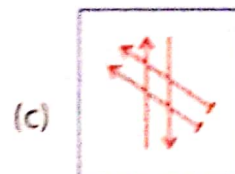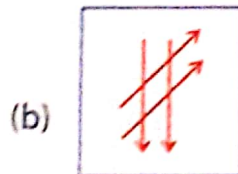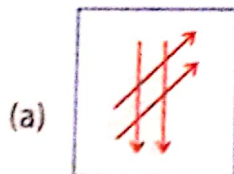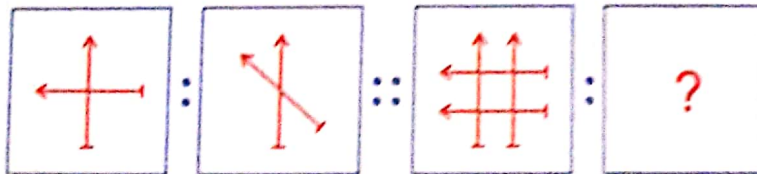(a) Mother   (b) Father   (c) Wife   (d) Sister

Explanation: (b): Except option (b), all other are females.

Exercise

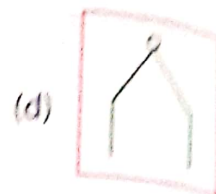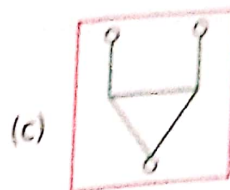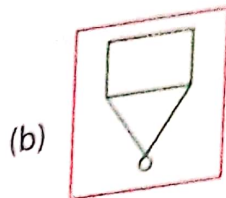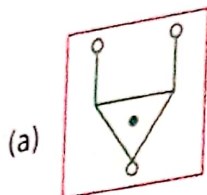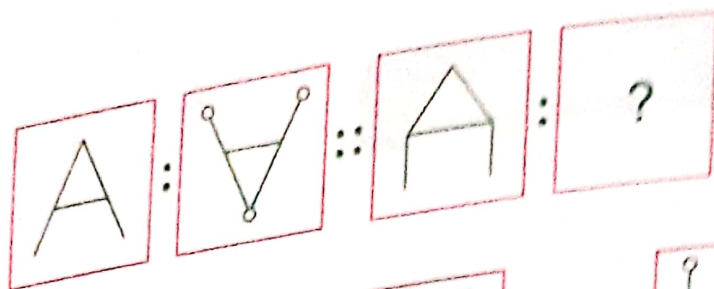**Direction (Q.1 to 15):** Identify the relation between each of the given pairs on either side of '::'. Replace the question mark '?' with the correct option.

1. 63 : 48 :: 35 : ?
   (a) 28 (b) 24 (c) 22 (d) 18

2. 10 : 26 :: 17 : ?
   (a) 56 (b) 49 (c) 61 (d) 63

3. 11 : 17 :: 23 : ?
   (a) 27 (b) 29 (c) 31 (d) 37

4. 4 : 18 :: 48 : ?
   (a) 86 (b) 92 (c) 100 (d) 120

5. 41 : 14 :: 73 : ?
   (a) 11 (b) 37 (c) 21 (d) 25

6. Teeth : Chew :: Mind : ?
   (a) Think (b) Brain (c) Study (d) walk

7. Country : State :: Year : ?
   (a) Hours (b) Days (c) Weeks (d) Months

8. Madhya Pradesh : Bhopal :: Uttar Pradesh : ?
   (a) Kanpur (b) Lucknow (c) Agra (d) Indore

9. Mother : Home :: Teacher : ?
   (a) Study (b) Punish (c) School (d) Madam

10. Poverty : Wealth :: Yoga : ?
    (a) Health (b) Exercise (c) Oldness (d) Young

11.

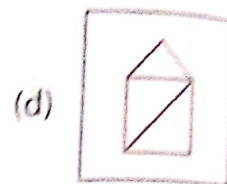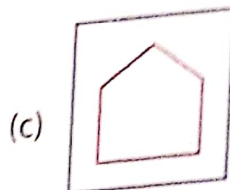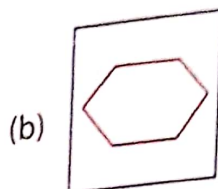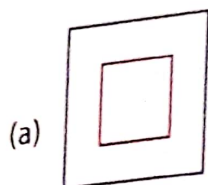(a)   (b)   (c)   (d)

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12. : :: : **?**

(a)   (b)   (c)   (d)

13. : :: : **?**

(a)   (b)   (c)   (d)

14. : :: : **?**

(a)   (b)   (c)   (d)

15. : :: : **?**

(a)   (b)   (c)   (d)
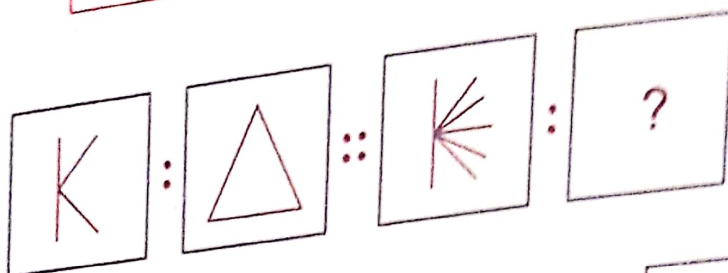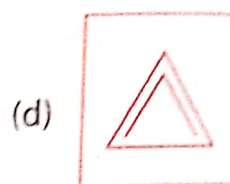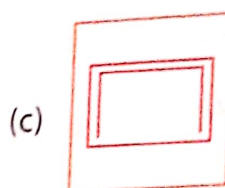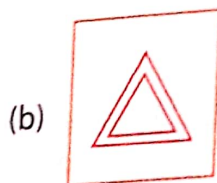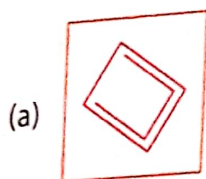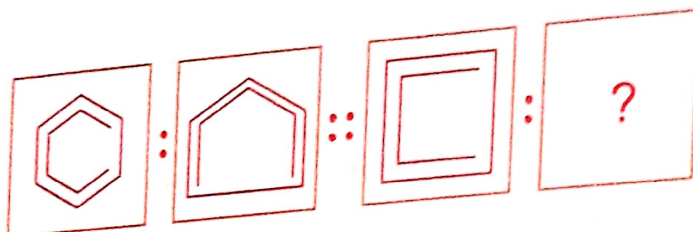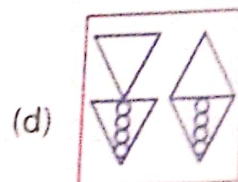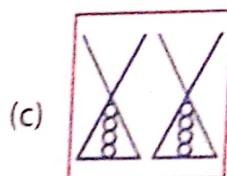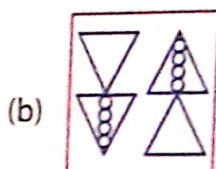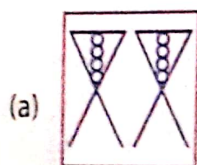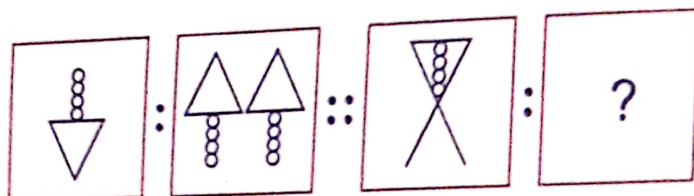
16. 216, 343, 416, 512, 729
    (a) 216
    (b) 416
    (c) 729
    (d) 512

17. 221, 284, 362, 393, 495
    (a) 284
    (b) 362
    (c) 495
    (d) 221

18. 17, 23, 13, 63, 79
    (a) 23
    (b) 17
    (c) 23
    (d) 63

19. Diameter, Chord, Diagonal, Radius
    (a) Radius
    (b) Chord
    (c) Diagonal
    (d) Diameter

20. Square, Rhombus, Parallelogram, Pentagon
    (a) Rhombus
    (b) Parallelogram
    (c) Square
    (d) Pentagon

21. Metre, Centimetre, Litre, Kilometre
    (a) Litre
    (b) Kilometre
    (c) Centimetre
    (d) Metre

22. (a)   (b)   (c)   (d)

23. (a)   (b)   (c)   (d)

24. (a)   (b)   (c)   (d)

25. (a)   (b)   (c)   (d)
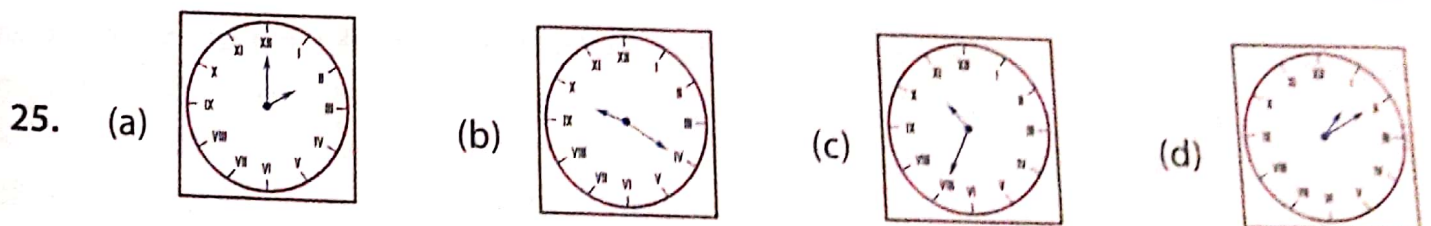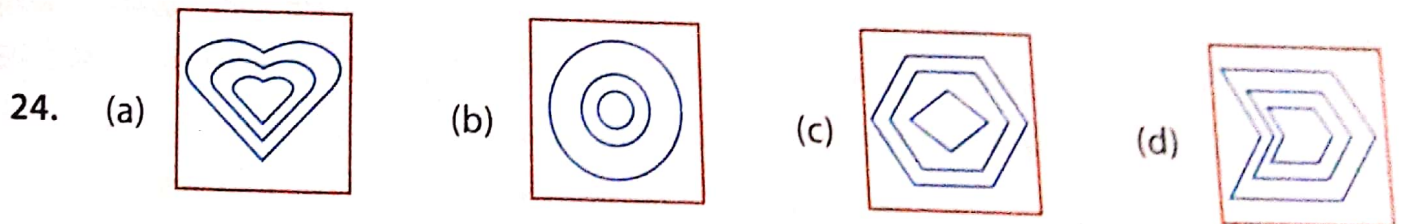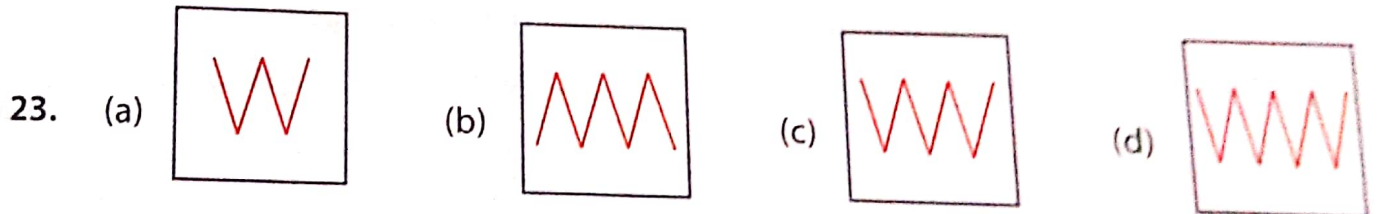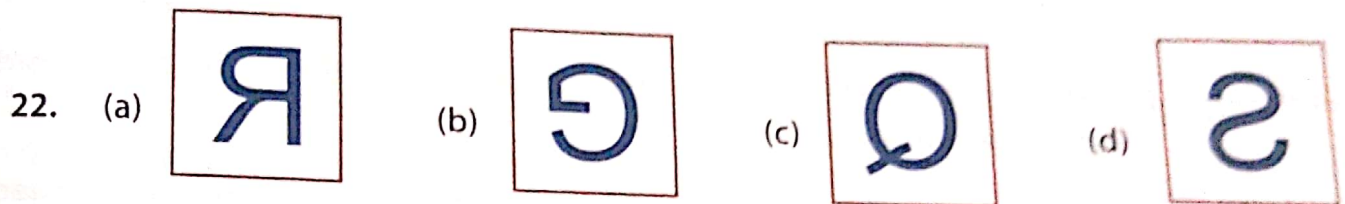
Coding-Decoding

INTRODUCTION

The term 'Coding-Decoding' primarily relates to messages sent in secret form. Coded messages cannot be easily understood by anyone other than their sender and receiver. Coding, therefore, means rule or method used to hide the actual meaning of a word or group of words. Decoding means the method of making out the actual message that is disguised in a particular method of coding. In the questions based on coding-decoding, a word (basic word) is coded in a particular way and students are asked to code other words in the same way. Questions on coding-decoding are designed to test a student's ability to understand the rule used for coding, and then translate it quickly to find out the codes for the given word.

Let us see some examples.

Example 1. If 'TRAINS' is coded as 'RTIASN', in a code language how will 'PISTOL' be coded in the same language?

(a) SITLOP   (b) IPSTLO   (c) SIPTLO   (d) IPTSLO

Explanation: (d): Each two letters in the word interchange their position in the coded word given in the question.

Example 2. In a certain language, 'POSTER' is coded as '918273' and 'SHAME' is coded as '86047'. How will 'HATES' be coded in that language?

(a) 60278   (b) 62078   (c) 60287   (d) 60728

Explanation: (a): H $\rightarrow$ 6, A $\rightarrow$ 0, T $\rightarrow$ 2, E $\rightarrow$ 7 and S $\rightarrow$ 8.

Example 3. In a certain code, 'BLACK IS WHITE' is written as 'JA KE MO', 'WHITE ARE GREEN' is written as 'KE UE PE' and 'GREEN IS YELLOW' is written as 'MO PE MJ'. What is the code for 'ARE'?

(a) KE   (b) PE   (c) MO   (d) UE

Explanation: (d): In the first two statements, the common word is WHITE and the common code is KE, i.e. WHITE $\rightarrow$ KE. In the second and third statements the common word is GREEN and the common code is PE, i.e. GREEN $\rightarrow$ PE. Now from the second statement the remaining word is ARE and the remaining code is UE, i.e. ARE $\rightarrow$ UE.

Exercise

1. If 'TAP' is coded as 'SZO', then how will 'FREEZE' be coded?

   (a) EQDFYG   (b) EQDDYD   (c) EQFFAF   (d) GSFFAF

2. In a certain code language, 'SIKKIM' is written as 'THLJJL'. How is 'DELHI' written in that code language?

   (a) EDMGJ   (b) CFKIH   (c) EDMJG   (d) CFKHI

3. If certain code language, 'CODING' is written as 'GNIDOC'. How will 'DECODING' be written in that code language?

   (a) GNIDOCDE   (b) GNIODCED   (c) GNIDOCED   (d) GNIDCOED

4. In a certain code, 'MISSIONS' is written as 'MSIISNOS'. How is 'ONLINE' written in that code?

   (a) OLNNIE   (b) ONILEN   (c) NOILEN   (d) LNOENI

5. In certain code, 'TIGER' is written as 'QDFHS'. How is 'FISH' written in that code?

   (a) GRHE   (b) GHER   (c) GREH   (d) GHRE

6. In certain code, 'FROZEN' is written as 'OFAPSG'. How will 'MOLTEN' be written in that code?

   (a) OFUMPN   (b) OFPOMN   (c) OFSMPN   (d) OFUNPM

7. In a certain code, 'UHUZ' is written as 'VIVA'. How will 'VIVA' be written in that code?

   (a) UHUZ   (b) WJWB   (c) WJWZ   (d) ZUHU

8. In a certain code, 'LIMCA' is written as KJLDZ'. Which of the following words will be written as 'GPMEZ' in that code?

   (a) HOUSE   (b) HINDI   (c) HORSE   (d) HONDA

9. If 'ENGLAND' is coded as '0418546' AND 'FRANCE' is coded as '725430', then how is 'GREECE' coded?

   (a) 120030   (b) 120040   (c) 120300   (d) 120330

10. In a certain code language, '479' means 'SEE GOOD PICTURE', '192' means 'GOOD AND TASTY' and '236' means 'DAY AND NIGHT'. Which of the digits stands for 'TASTY'?

(a) 1
(b) 2
(c) 3
(d) 9

11. If 'COMPUTER' is coded as '98765432', then how 'CPU' will be coded?

(a) 973
(b) 962
(c) 965
(d) 954

12. If 'WARD' is written as '2468', how will 'DRAW' be written?

(a) 4268
(b) 4672
(c) 6792
(d) 8642

13. If in a certain language, 'GUN' is written as 'NUG', then 'BULLET' will be written as

(a) LUBTEL
(b) TELLUB
(c) UBLLTE
(d) BLLTEU

14. If 'ROME' is coded as '#*@&', then 'MORE' will be coded as

(a) @*#&
(b) &@*#
(c) @#*&
(d) #@*&

15. If 'SPOT' is coded as 'TOPS', then 'CIVIC will be coded as

(a) ICCIV
(b) VICIC
(c) CIVIC
(d) CIVCI

16. If in a certain language, 'EDUCATION' is written as '876543210', then 'DEDUCTION' will be written as

(a) 787653210
(b) 878654321
(c) 787643210
(d) 878543210

17. In a certain code, '247' means 'SPREAD RED CARPET', '256' means 'DUST ONE CARPET'. '264' means 'ONE RED CARPET'. Which digit in that code means DUST?

(a) 2
(b) 4
(c) 5
(d) 6

18. In certain code, 'THOUSAND' is written as 'HTUOASDN'. How is 'BALLOONS' written in that code?

(a) ABLLOOSN
(b) BALLOOSN
(c) LABOLONS
(d) BLAOLONS

19. If in the English alphabet, each alternate letter from B onwards is written in small letters while others are written in capitals, then how will the 3rd day from Tuesday be coded?

(a) frIdAY
(b) FrIdAY
(c) THURSdAY
(d) ThUrSdAY

20. If the letters of the word 'CYLINDER' are arranged alphabetically, then which letter will be farthest from the first letter of word?

(a) E   (b) Y   (c) R   (d) None of these

21. In a certain code, 'CERTAIN' is written as 'BFQUZJM'. How is 'BOOK' written in that code?

(a) CNPJ   (b) CPNJ   (c) ANPL   (d) APNL

22. In a certain code, 'SEQUENCE' is written as 'FDOFVRFT'. How is 'CHILDREN' written in that code?

(a) OFESJMID   (b) OFSEMJID   (c) OFSEJIMD   (d) OFSEJMID

23. If "REASON' is coded as '*&@#$%', then 'SEASON" is coded as

(a) @#&@$%   (b) #&@#$%   (c) #$&@#%   (d) #&#@$%

24. In a certain code, 'TIGER' is written as 'REGIT'. How is 'HORSE' coded in that cod

(a) ERSOH   (b) EOSRH   (c) ESORH   (d) ESROH

25. In a certain code, 'DEAR' is written as '9081'. How is 'READER' is written in that co

(a) 108190   (b) 180091   (c) 108901   (d) 108109

Mirror and Water Images

INTRODUCTION

The reflection of an object into the mirror is called its mirror image. It is obtained by inverting an object laterally. If we combine the original figure and mirror image together, they form a symmetry.

MIRROR IMAGE

Mirror Images of Capital letters

Letter	Image	Letter	Image	Letter	Image	Letter	Image
A	A	H	H	O	O	V	V
B	8	I	I	P	q	W	W
C	Ɔ	J	L	Q	Ọ	X	X
D	ᗡ	K	ꓘ	R	Я	Y	Y
E	Ǝ	L	⅃	S	Ƨ	Z	Ƶ
F	ꟻ	M	M	T	T		
G	Ɔ	N	И	U	U		

The capital letters which have the same mirror images are:
A, H, I, M, O, T, U, V, W, X, Y

Mirror Images of Small letters

Letter	Image	Letter	Image	Letter	Image	Letter	Image
a	6	h	ʜ	o	o	v	v
b	d	i	i	p	q	w	w
c	ɔ	j	ị	q	p	x	x
d	b	k	ʞ	r	ɿ	y	y
e	ϱ	l	l	s	ƨ	z	z
f	ʇ	m	m	t	ʇ		
g	ǫ	n	n	u	u		

The small letters which have the same mirror images are:

i, l, o, v, w, x

Mirror Images of Numbers

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	ᴵ	ς	Ɛ	₽	ꙅ	∂	⊺	8	�	oᴵ	ᴵᴵ	ꙅᴵ	Ɛᴵ	₽ᴵ	ꙅᴵ

0 and 8 numbers have the same mirror images.

WATER IMAGES

The reflection of an object into water is called its water image. It is obtained by inverting an object vertically.

In water image (horizontal), the LOWER and UPPER parts interchange positions and the LEFT and RIGHT parts remain constant.

Water Images of Capital Letters

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
∀	B	C	D	E	Ⅎ	ꓷ	H	I	ꓩ	K	Γ	W	И	O	b	Ꝺ	ꓤ	ꙅ	⊥	∩	∧	M	X	⅄	Ƹ

Water Images of Small Letters

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
ɐ	b	c	b	ɘ	ꞇ	a	ʮ	!	!	ʞ	ʅ	ɯ	u	o	b	d	ɹ	ꙅ	ꞇ	n	ʌ	M	x	⅄	Ƹ

Water Images of Numbers

0	1	2	3	4	5	6	7	8	9
0	ꓶ	ꙅ	3	ꓩ	ꙅ	ℓ	ᒧ	8	ᕙ

Now, let us understand mirror and water images with the help of some examples.

Example 1.   Choose the alternative which closely resembles the mirror image of the given combination.

1965INDOPAK

(a) ꓘAꟼOꓷИIꙅƆϱᴵ

(b) ꙅϱϱᴵOꓷИIꟼAꓘ

(c) ꓘAꟼOꓷИIꙅϱϱᴵ

(d) ᴵϱϱꙅIИꓷOꟼAꓘ

Explanation: (d): As per the given tables, the correct mirror image is in the option (d).

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Example 2. Choose the correct mirror image of the given figure.
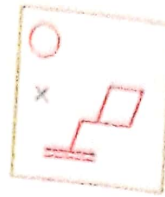
(a) (b) (c) (d)

Explanation: (c): In the mirror image, the left side of the object becomes right while right side of the object becomes left.

Example 3. From the options given below, choose the one that represents the correct water image of

E 8 t 4 e 9 C

(a) ∃ 8 ɟ Ɐ 9 ℮ ɔ

(b) E 8 ɟ Ɐ 9 ℮ ɔ

(c) ∃ 8 ɟ Ɐ ə 6 C

(d) E 8 ɟ Ɐ 6 ə C

Explanation: (d): As per the given tables, the correct water image is option (d).

Example 4. Choose the correct water image of the given figure.
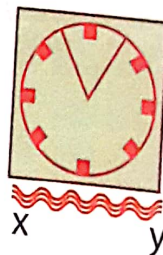
(a) (b) (c) (d)

Explanation: (b): In the water image,
- The top side of the object becomes the bottom.
- The bottom side of the object becomes the top.
- The left and right sides of the object remain unchanged.

Exercise

Direction (Q.1 to 17): Choose the correct mirror image of the given word/number/figure.

1. QUANTITATIVE
   (a) ƎVITATITNAUQ   (b) ƎVITATITIAUQ   (c) ƎVITATITIAUQ   (d) ƎVITATITNAUQ

2. ab45CD67
   (a) ΓᴆꝹƆƧ4dɐ   (b) ϙᴘ₽ᔓϹᗡϐᘎ   (c) ɐb45CD9ᘎ   (d) ᘎϐᗡϹᔓ₽ᴘϙ

3. 9145
   (a) 2ᗩ1ϱ   (b) ϱ1ᗩ2   (c) ϱ1ᗩ2   (d) ϱ1ᗩ2

4. REASONING
   (a) GNINOSAER   (b) ϼNINOƧAƎЯ   (c) ϼNINOƧAƎЯ   (d) ϼNINOƧAƎЯ

5. Nu56p7uR
   (a) ИυᔓϱꝹᴝυᴙ   (b) ᴙυᘎqϱᔓυИ   (c) ᴙυᘎqϱᔓυИ   (d) ᴙυᘎqϱᔓυИ

6. MALAYALAM
   (a) MALAYALAM   (b) MAJAYALAM   (c) MA⅃AYA⅃AM   (d) MA⅃AYA⅃AM

7. qutubgarh
   (a) pυɟυdϱɐɿ̟ʜ   (b) dυɟυdϱɐɿ̟ʜ   (c) hragbutuq   (d) ʜɿɐϱdυɟυp

8. WHITE
   (a) ƎTIHW   (b) ƎTIHW   (c) ƎTIHW   (d) ETIHW
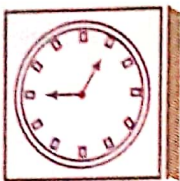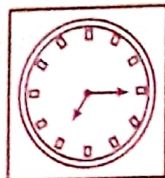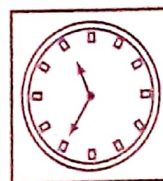
9. (a)   (b)   (c)   (d)
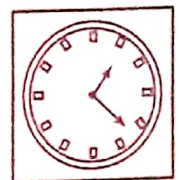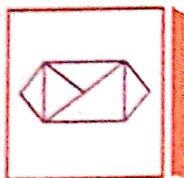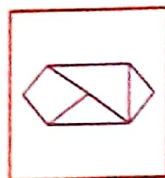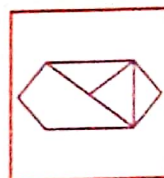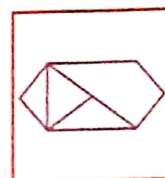
10. (a)   (b)   (c)   (d)
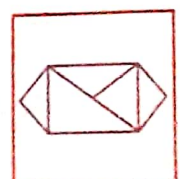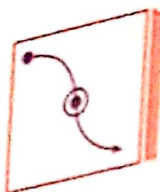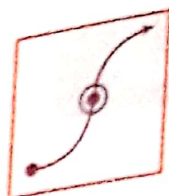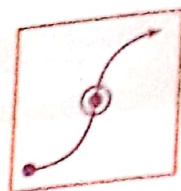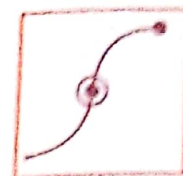
11.   (a)   (b)   (c)   (d)

12.   (a)   (b)   (c)   (d)

13.   (a)   (b)   (c)   (d)
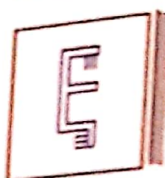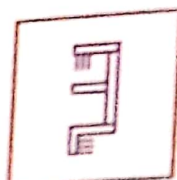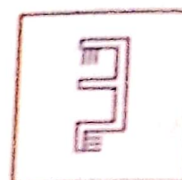
14.   (a)   (b)   (c)   (d)
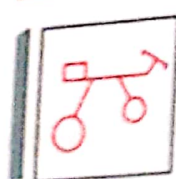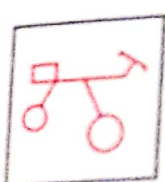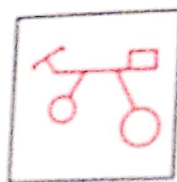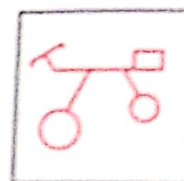
15.   (a)   (b)   (c)   (d)
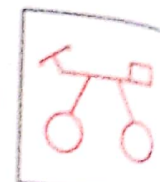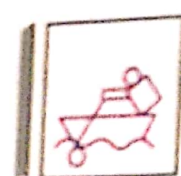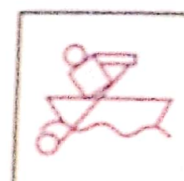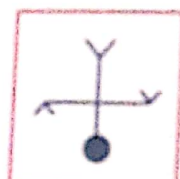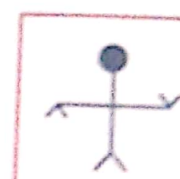
16.   (a)   (b)   (c)   (d)
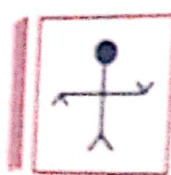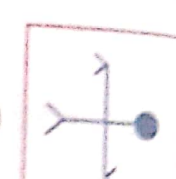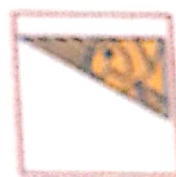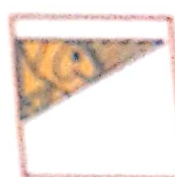
17.   (a)   (b)   (c)   (d)

Direction (Q.18 to 28): Choose the alternative which closely resembles the water-image of the given word/number/figure.

18. US91Q4M5W3

   (a) U2910↑W2M3   (b) U2610↑W2M3   (c) U2910↓W2M3   (d) EW2MW2O1629U

19. rise

   (a) sau

     (b) esir

       (c) esir

         (d) rise