GS FOUNDATION 2.0 (2023-24)
BOOKLET 25
PUZZLES AND PATTERNS

The questions which cannot be classified into other specific topics are classified generically as puzzles and patterns.

1) PYQS

CSE 2023: There are large number of silver coins weighing 2gm, 5gm, 10gm, 25gm, 50gm each. Consider the following statements:
1. To buy 78 gm of coins one must buy at least 7 coins.
2. To weigh 78 gm using these coins one can use less than 7 coins.
Which of the statements given above is/are correct?
(a) 1 only (b) 2 only (c) Both 1 and 2 (d) Neither 1 nor 2

CSE 2023: A rectangular floor measures 4 m in length and 2.2m in breadth. Tiles of size 140 cm by 60 cm have to be laid such that the tiles do not overlap. A tile can be placed in any orientation so long as its edges are parallel to the edges of the floor. What is the maximum number of tiles that can be accommodated on the floor?
(a) 6 (b) 7 (c) 8 (d) 9

CSE 2023: The letters of the word "INCOMPREHENSIBILITIES" are arranged alphabetically in reverse order. How many positions of the letter/letters will remain unchanged?
(a) None (b) One (c) Two (d) Three

CSE 2023: Raj has ten pairs of red, nine pairs of white and eight pairs of black shoes in a box. If he randomly picks shoes one by one (without replacement) from the box to get a red pair of shoes to wear, what is the maximum number of attempts he has to make?
(a) 27 (b) 36 (c) 44 (d) 45

CSE 2023: A box contains 14 black balls, 20 blue balls, 26 green balls, 28 yellow balls, 38 red balls and 54 white balls.
Consider the following statements:
1. The smallest number n such that any n balls drawn from the box randomly must contain one full group of at least one colour is 175.
2. The smallest number m such that any m balls drawn from the box randomly must contain at least one ball of each colour is 167.
Which of the above statements is/are correct?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

CSE 2023: If 'ZERO' is written as 'CHUR', then how is 'PLAYER' written?
(a) SOCACT
(b) SODBGT
(c) SODBHT
(d) SODBHU

CSE 2023: If 7 ⊕ 9 ⊕ 10 = 8, 9 ⊕ 11 ⊕ 30 = 5, 11 ⊕ 17 ⊕ 21 = 13, what is the value of 23 ⊕ 4 ⊕ 15?
(a) 6 (b) 8 (c) 13 (d) 15

CSE 2022: If the order of the letters in the English alphabet is reversed and each letter represents the letter whose position it occupies, then which one of the following represents 'LUCKNOW'?
(a) OGXPMLD
(b) OGXQMLE
(c) OFXPMLE
(d) OFXPMLD

CSE 2022: In a tournament of Chess having 150 entrants, a player is eliminated whenever he loses a match. It is given that no match results in a tie/draw. How many matches are played in the entire tournament?
(a) 151
(b) 150
(c) 149
(d) 148

CSE 2022: On one side of a 1.01 km long road, 101 plants are planted at equal distance from each other. What is the total distance between 5 consecutive plants?
(a) 40 m
(b) 40.4 m
(c) 50 m
(d) 50.5 m

CSE 2021: In the English alphabet, the first 4 letters are written in opposite order, and the next 4 letters are written in opposite order and so on; and at the end Y and Z are interchanged. Which will be the fourth letter to the right of the 13th letter?
(a) N
(b) T
(c) H
(d) I

CSE 2021: Images of consonants of the English alphabet (Capitals) are observed in a mirror. What is the number of images of these which do not look like their original shapes?
(a) 13
(b) 14
(c) 15
(d) 16

CSE 2021: A boy plays with a ball, and he drops if from a height of 1.5 m. Every time the ball hits the ground, it bounces back to attain a height 4/5th of the previous height. The ball does not bounce further if the previous height is less than 50 cm. What is the number of times the ball hits the ground before the ball stops bouncing?
(a) 4
(b) 5
(c) 6
(d) 7

CSE 2021: In a code language 'MATHEMATICS' is written as 'LBSIDNZUHDR'. How is CHEMISTRY' written in that code language?
(a) DIDLHRSSX
(b) BIDNHTSSX
(c) BIDLHTSSX
(d) DGFLIRUQZ

CSE 2020: The letters from A to Z are numbered from 1 to 26 respectively. If GHI = 1578 and DEF = 912, then what is ABC equal to?
(a) 492
(b) 468
(c) 262
(d) 246

Q. What is the missing term @ in the following?
ACPQ : BESU : MNGI : @
(a) NPJL
(b) NOJM
(c) NPIL
(d) NPJM

CSE 2020: Four friends A, B, C and D need to cross a bridge. A maximum of two persons can cross it at a time. It is night and they just have one lamp. Persons that cross the bridge must carry the lamp to find the way. A pair must walk together at the speed of slower person. After crossing the bridge, the person having faster speed in the pair will return with the lamp each time to accompany another person in the group. Finally, the lamp has to be returned at the

original place and the person who returns the lamp has to cross the bridge again without lamp. To cross the bridge, the time taken by them is as follows: A: 1 minute, B: 2 minutes, C: 7 minutes and D: 10 minutes. What is the total minimum time required by all the friends to cross the bridge?
(a) 23 minutes
(b) 22 minutes
(c) 21 minutes
(d) 20 minutes

CSE 2019: If every alternative letter of the English alphabet from B onwards (including B) is written in lower case (small letters) and the remaining letters are capitalized, then how is the first month of the second half of the year written?
(a) JuLY
(b) jULy
(c) jUly
(d) jUlY

CSE 2018: Q. Consider the following pattern of numbers
8 10 15 13
6 5 7 4
4 6 8 8
--- --- --- ---
6 11 16 ?
What is the number at '?' in the above pattern?
(a) 17
(b) 19
(c) 21
(d) 23

CSE 2018: If LSJXVC is the code for MUMBAI, the code for DELHI is
(a) CCIDD
(b) CDKGH
(c) CCJFG
(d) CCIFE

CSE 2016: A ate grapes and pineapple; B ate grapes and oranges; C ate oranges, pineapple and apple; D ate grapes, apple and pineapple. After taking fruits, B and C fell sick. In the light of the above facts, it can be said that the cause of sickness was:
(a) Apple
(b) Pineapple
(c) Grapes
(d) Oranges

CSE 2016: There are some nectar-filled flowers on a tree and some bees are hovering on it. If one bee lands on each flower, one bee will be left out. If two bees land on each flower, one flower will be left out. The number of flowers and bees respectively are:

(a) 2 and 4

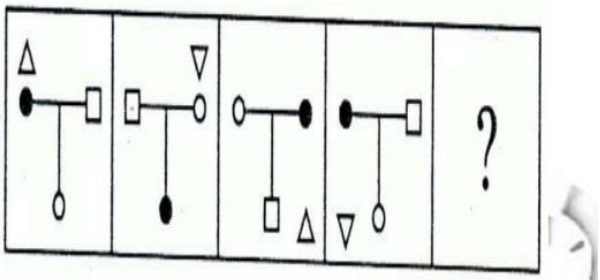
(b) 3 and 2

(c) 3 and 4

(d) 4 and 3

CSE 2015:

31. Consider the figures given below:



To fit the question mark, the correct answer is

(a) 

(b) 

(c) 

(d) 

CSE 2014: Examine the following statements:

1. George attends Music classes on Monday.
2. He attends Mathematics classes on Wednesday.
3. His Literature classes are not on Friday.
4. He attends History classes on the day following the day of his Mathematics classes.
5. On Tuesday, he attends his Sports classes.

If he attends just one subject in a day and his Sunday is free, then he is also free on

(a) Monday

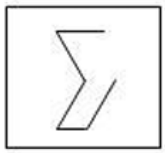
(b) Thursday

(c) Saturday

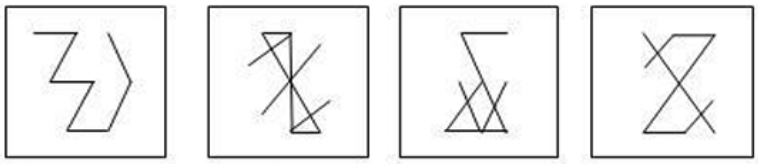
(d) Friday

CSE 2014:

14. Examine the following figure:

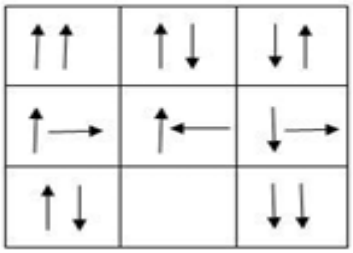


Which one of the following figures has the above figure embedded in it?



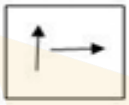
(a) (b) (c) (d)

15. Consider the following matrix:



Which one of the following figures fits into blank part of the above matrix?

(a)

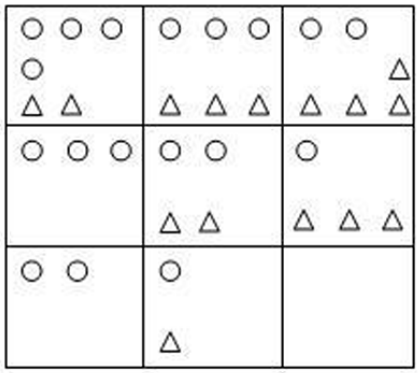


(b)

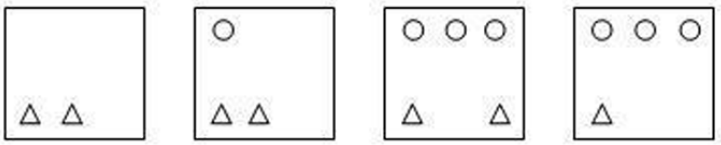
(c)

(d)

CSE 2014: Consider the following matrix with one empty block in the lower extreme corner:



Which of the following figures could fit in the empty block and thus complete the matrix?



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

CSE 2014: Six identical cards are placed on a table. Each card has number '1' marked on one side and number '2' marked on its other side. All the six cards are placed in such a manner that the number '1' is on the upper side. In one try, exactly four (neither more nor less) cards are turned upside down. In how many least number of tries can the cards be turned upside down such that all the six cards show number '2' on the upper side?

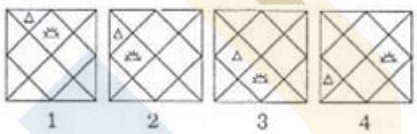
(a) 3

(b) 5

(c) 7

(d) This cannot be achieved

CSE 2013: Consider the following figures 1, 2, 3 and 4: In the figure



from 1 to 4 above, two symbols are shown to change their position in a regular direction. Following the same sequence, which one of the following will appear at the fifth stage?

(a)

(b)

(c)

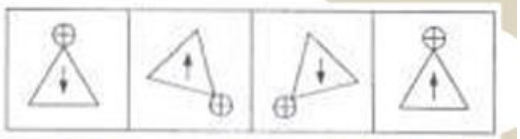
(d)

CSE 2013: Directions for the following 2 (two) items:

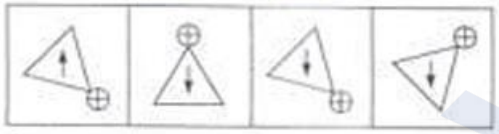
In each item, there are two sets of figures; first four figures named Problem figures and next four figures named Answer figures indicated as (a), (b), (c) and (d).

The problem figures follow a particular sequence. In accordance with the same, which one of the four answer figures should appear as the fifth figure?

Q. Problem figures:



Answer figures:



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

Q. Problem figures:

Answer figures:

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

CSE 2012: Four political parties W, X, Y and Z decided to set up a joint candidate for the coming parliamentary elections. The formula agreed by them was the acceptance of a candidate by most of the parties. Four aspiring candidates, A, B, C and D approached the parties for their tickets. A was acceptable to W but not to Z. B was acceptable to Y but not to X. C was acceptable to W and Y. D was acceptable to W and X. When candidate B was preferred by W and Z, candidate C was preferred by X and Z, and candidate A was acceptable to X but not to Y; who got the ticket?

(a) A

(b) B

(c) C

(d) D

CSE 2012: The elements of the problem figures given below are changing with a certain rule as we observe them from left to right:

According to this rule, which of the following would be the next figure if the changes were continued with the same rule?

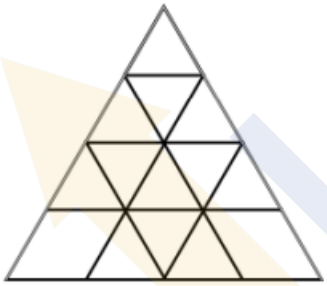
(a) 

(b) 

(c) 

(d) 

CSE 2011: Consider the following figure and answer the item that follow:



What is total number of triangles in the above grid?

(a) 27

(b) 26

(c) 23

(d) 22