

Q.8

Ans:

(a)

Sol: ROAD $\rightarrow$ UQDG

First, we have to find any pattern between two words.

- $R + 3 \rightarrow U$ first letter
- $O + 2 \rightarrow Q$ second letter
- $A + 3 \rightarrow D$ third letter
- $D + 3 \rightarrow G$ fourth letter

so this is the pattern, and we have to apply this on asked word

LAKE

$L + 3 \rightarrow O$

$A + 2 \rightarrow C$

$K + 3 \rightarrow N$

$E + 3 \rightarrow H$

So, word LAKE can be written

as OCNH.

Rules of Coding:

There are some patterns in the given example, we have to find that pattern, and according to that pattern, we have to find the answer of asked word.

- i, We have to see whether there is increment or decrement.
- ii, We have to number whole alphabet.

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

- iii, Through this table, we can find any pattern.

(b)

Sols-

Let Male be $\square$

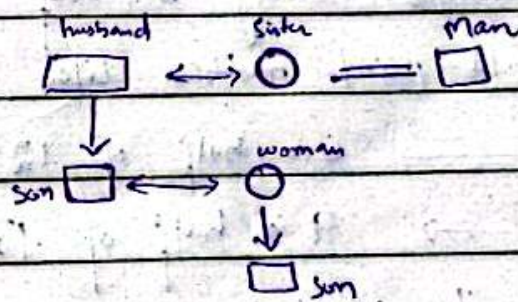
Let Female be $\circ$

Husband - wife relation symbol $\longleftrightarrow$

Brother - sister relation symbol $=$

and sons and daughters symbol $\downarrow$

So in the given data,



Woman is the wife of man's nephew.

(C)

Ans.

(i) 4, 12, 6, 18, 9, 27, —

Sol:-

12 is 3 times 4

18 is 3 times 6

and 27 is 3 times 9

next number coming is half of
the multiplied number like,

12, 6 $\rightarrow$ 6 is half of 12

18, 9 $\rightarrow$ 9 is half of 18

so next number must be half
of 27 which is 13.5

13.5 is next number

Ans.

(ii) 1, 2, 6, 24, 120, —

Sol: -

$$1 \times 1 + 1 = 2$$

$$2 \times 2 + 2 = 6$$

$$6 \times 3 + 6 = 24$$

$$24 \times 4 + 24 = 120$$

$$120 \times 5 + 120 = 720$$

The next number is 720

Pattern:

Every next number is multiplied with one increasing natural number and is added with same number like,

$$120 \times (5) + 120 =$$

natural number

self number is added

(d)

Ans: P, Q, R, S, T

Data: Shortest person is 150 cm

Tallest person is 180 cm

Who is 3rd tallest?

and what is maximum possible range of their heights?

Conditions:

Shortest $\longleftrightarrow$ tallest

Cond. 1. $R \rightarrow P \rightarrow Q$

Cond. 2. $Q \rightarrow S \rightarrow T$

So the order is R P Q S T

Shortest
150 cm

3rd tallest

Tallest
180 cm

Q is 3rd tallest.

Maximum possible range of their heights:

P's height can be 177 cm, Q's height can be 178 cm

S's height can be 179 cm.

Q. 7

Ans:-

(a).

Sol: Data: Total 100 people

65 - watch cricket

40 - watch hockey

20 - watch neither

How many people watch both?

People who watch nothing - 20

$$\rightarrow 100 - 20 = 80$$

out of 80 - 65 watch cricket
- 40 watch football

$$\rightarrow 65 + 40 = 105 - 80 = 25$$

25 people are those who watch both football and cricket.

(b)

Sol:-

Data:

$$L = 4 + w$$

Perimeter is 72 meters.

$$d = 2.5 \text{ m}$$

$$V = ?$$

Sol:

$$P = 2L + 2w$$

$$72 = 2(4 + w) + 2w$$

$$72 = 8 + 2w + 2w$$

$$4w = 64$$

$$\boxed{w = 16 \text{ m}}$$

$$L = 4 + w$$

$$\boxed{L = 20 \text{ m}}$$

$$\boxed{d = 2.5 \text{ m}}$$

$$V = L \times w \times d$$

$$V = 20 \times 16 \times 2.5$$

$$\boxed{V = 800 \text{ m}^3}$$

Ans:

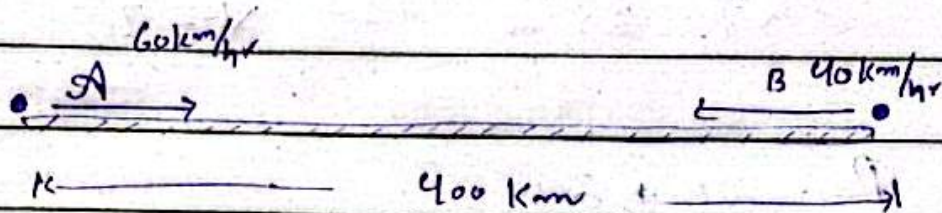
(C)

Ans:

Data:

Train A speed 60 km/hr

Train B speed 40 km/hr



Train A

- After one hour covers 60 km

- After 2 hours $= 120 \text{ km}$

- After 3 hours $= 180 \text{ km}$

- After 4 hours $= 240 \text{ km}$

Train B

- After one hour covers 40 km

- After 2 hours 80 km

- After 3 hours 120 km

- After 4 hours 160 km

After 4 hours, two trains will meet



(d)

Ans: Data:

Let x be the ^{present} age of father
 y be the ^{present} age of son

Given

$$x + y = 75 \text{ years.} \quad \text{--- (i)}$$

$$x - 10 = 4(y - 10) \quad \text{--- (ii)}$$

From eq (i), $\rightarrow x = 75 - y$ --- (iii)

put eq (iii) in eq (ii)

$$x - 10 = 4(y - 10)$$

$$75 - y - 10 = 4(y - 10)$$

$$65 = 4y - 40 + y$$

$$65 + 40 = 5y$$

$$5y = 105$$

$$\boxed{y = 21} \text{ --- Present age of son}$$

put $y = 21$ in eq (iii)

$$x = 75 - y$$

$$x = 75 - 21$$

$$\boxed{x = 54} \text{ --- Present age of Father.}$$