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Subject:

Code:

Batch No: RWP OB-57

Part - II

Section - II

Q. 8

(b) In a mixture of 60 litres, the ratio of milk and water is 2:1. If this ratio is to be 1:2, then what is the quantity of water to be further added?

Solution: In the original mixture,

$$\text{Milk} = \frac{2}{3} (60) = 40 \text{ litres}$$

$$\text{Water} = \frac{1}{3} (60) = 20 \text{ litres}$$

Now, let 'x' be the amount to be added to

$$\Rightarrow \frac{40+x}{20+x} = \frac{1}{2} \Rightarrow 80+2x = 20+x$$

$$\Rightarrow 80-20 = x-2x \Rightarrow 60 = -x$$

$$\Rightarrow \boxed{x = 60}$$



© If A is the brother of B and B is the sister of C, C is the father of D. How D is related to A, D being a male member?

Solution:

According to the statement A, B and C are siblings and D is the son of C. Therefore, D is nephew of A.

④ In a certain code ROAR is written as URDU. How URDU will be written in that code?

Solution: If ROAR  $\rightarrow$  URDU  
Then, URDU  $\rightarrow$  XUGX

Because, ~~every~~ each new letter in URDU is obtained by ~~two~~ <sup>three</sup> letters forward in ROAR.

Q No. 7

① A number is divided by 6 and then 50 is added. If the total is 60, what is that number?

Solution: let the number be 'x'

Then, x is divided by 6

$\frac{x}{6}$  and 50 is added

$$\Rightarrow \left(\frac{x}{6}\right) + 50 = 60$$

$$\Rightarrow \frac{x}{6} = 60 - 50$$

$$\Rightarrow \frac{x}{6} = 10$$

$\Rightarrow \boxed{x = 60} \rightarrow$  The number is 60.

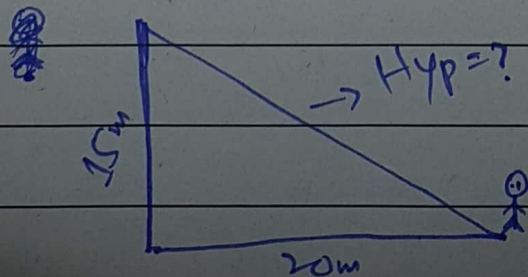
(b) Find the odd one out:

8, 16, 24, 34, 40, 48

Solution: 34 is the odd number because it is only divisible by 2 and 17.

(c) A tower is 15m tall. If I am standing 20m from the base of the tower. What is my aerial distance from the top of the tower?

Solution: According to the given statement,





Using,  $(\text{Hyp})^2 = (\text{Base})^2 + (\text{perpendicular})^2$

$$\begin{aligned}(\text{Hyp})^2 &= (20)^2 + (15)^2 \\ &= 400 + 225\end{aligned}$$

$$(\text{Hyp})^2 = 625$$

$$\Rightarrow \sqrt{(\text{Hyp})^2} = \sqrt{625}$$

$$\boxed{\text{Hyp} = 25}$$

So, the aerial distance from the top of the tower to the person standing ~~to~~ 20m from the base would be  $\boxed{25\text{m}}$ .

④ In a hotel, the tariff for every odd dates is Rs. 1000 and for even dates is Rs. 2000. If the man paid total of 30000 in all. For how many days did he stay in the hotel given that the first day is 5th date of the month?

Solution:

The person stayed for a  $\boxed{\text{total of } 20 \text{ days}}$  starting from 5th date of the month by paying Rs 1000 for odd dates and Rs 2000 for even dates in a total of Rs. 30000.



# Section-I

Q No. 2

(a)

Malnutrition: A condition that results from eating a diet that contains either insufficient or too much nutrients as a result of which health problems arise.

## Causes of Malnutrition:

Malnutrition arises due to undernutrition and overnutrition. The major causes of undernutrition malnutrition are:

### 1) Increased Metabolic Needs:

Sometimes the body needs to perform increased metabolic activities such as recover from surgery, infections and general wounds. In these circumstances our regular diet intake may not be able to match these increased needs.

### 2) Medication Side Effects:

Some medications cause side effects such as loss of appetite and taste, nausea, drowsiness or fatigue, and shortness of breath.



These side effects can reduce the amount of food we eat.

### 3) Food Insecurity and Reduced Mobility:

Factors such as a small food budget and having minimal access to food stores impacts the quality and quantity of food which impacts how much food we eat. Having reduced mobility reduces the ability to cook and prepare food which can lead to smaller quantities or less nutritious foods on our plate.

### 4) Mental Health and Other Medical Conditions:

Medical conditions such as Alzheimer's and depression can interfere with our internal body clock and hunger cues leading us to skip meals.

### Malnutrition due to overnutrition:

The reason behind the rapid rise in obesity in adults and children is the cheaply available foods and drinks high in fat, sugar, and salt.



# Consequences of Malnutrition:

Malnutrition can have many adverse side effects, these include:

## 1) Muscle Wasting:

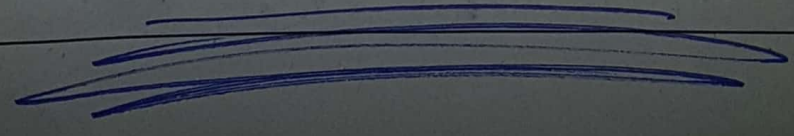
Our bodies prioritize our organs over our skeletal muscles. If we do not receive adequate protein from our diets our body begins to break down and use protein from our skeletal muscles to maintain our organ health.

## 2) Reduced Cognitive Abilities:

Our brains do not enjoy being underfed, being underfed can lead to feeling lethargic, irritability and irrational thinking.

## 3) Reduced Immunity, Wound Healing and Infection Fighting:

Reduced intake leads to reduced metabolic activity. Without getting enough food intake our body can not devote adequate resources and processes to keep us in a healthy state





~~(b)~~ (b)

## Food Contamination

(i) The deterioration of the quality of substance (food)

(ii) Contamination is not performed as a practice

(iii) Contamination can happen naturally as well as a result of environmental factors such as heat, humidity etc.

## Food Adulteration

(i) The addition of certain ingredients that are not legally permitted in them.

(ii) Adulteration is performed as a practice by certain merchant to obtain more profit

(iii) Adulteration is mostly man-done

~~\_\_\_\_\_~~  
~~\_\_\_\_\_~~  
(c)

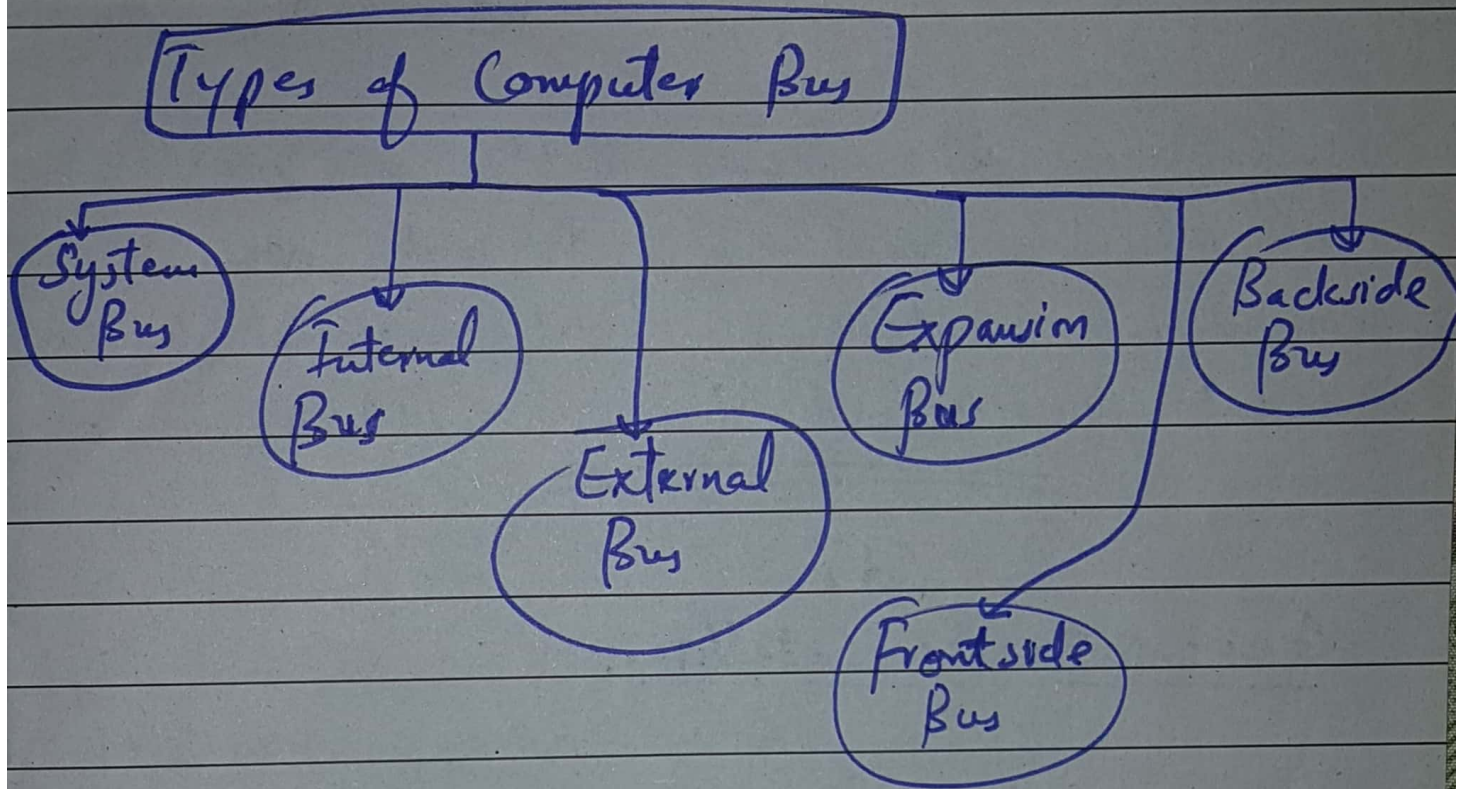
## Computer Buses:

A computer bus is a subsystem that is used to connect computer components and transfer data between them. For example, an internal bus connects computer internals to the motherboard.

A bus may be serial or parallel. Serial buses transmit data in bit-serial format. ~~While~~ Whereas,



parallel buses transmit data across multiple wires.



## Difference between RAM and ROM

### RAM

- (i) RAM stands for Random Access Memory
- (ii) RAM is a temporary memory
- (iii) The data in RAM can be changed or deleted
- (iv) RAM is a volatile memory

### ROM

- (i) ROM stands for Read Only Memory
- (ii) ROM is a permanent memory
- (iii) The instructions written in ROM can not be deleted or changed
- (iv) ROM is non-volatile memory



(v) The instructions are written into the RAM at the time of execution

(v) The instructions are written into the ROM at manufacturing time

(vi) Instructions in RAM change continuously as different programs are executed and new data is processed

(vi) It is not possible to write new information or instructions in ROM

(d)

### Geo-Stationary Satellites:

A geo-stationary satellite is a satellite that revolves around the Earth in its equatorial plane with the same angular speed and in the same direction as the Earth rotates about its own axis.

Because of the fact that their relative velocity with respect to Earth is zero, they appear to be stationary to an observer on Earth, and that is why are known as geostationary.

They are also known as synchronous satellites because their angular velocity is the same as that of the Earth on its own axis.

The height of geostationary satellite from



earth's surface is around 35,786 km.

## Natural Satellites Vs Artificial Satellites

(i) Celestial objects that orbit the earth and other planets

(ii) Moon is the natural satellite of Earth

(i) machines made by people that are launched into space and orbit Earth or another body in space

(ii) The International Space Station (ISS)

## Artificial Satellites of Jupiter

~~There are 53 confirmed~~

There is a single man-made satellite orbiting the planet, called the space probe Juno.