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Q1B) Solution: Let $A = x$ & $B = y$

According to the given conditions:

$$5\% x + 4\% y = \frac{2}{3}(6\% x + 8\% y)$$

$$\frac{5}{100}x + \frac{4}{100}y = \frac{2}{3} \times \frac{6}{100}x + \frac{2}{3} \times \frac{8}{100}y$$

$$\frac{5}{100}x - \frac{2}{3} \times \frac{6}{100}x = \frac{2}{3} \times \frac{8}{100}y - \frac{4}{100}y$$

$$\frac{1}{20}x - \frac{1}{25}x = \frac{4}{75}y - \frac{1}{25}y$$

$$\frac{5x - 4x}{100} = \frac{4y - 3y}{75}$$

$$\frac{x}{100} = \frac{y}{75} \Rightarrow \frac{x}{y} = \frac{4}{3}$$

Hence $\frac{A}{B} = \frac{4}{3}$ Ans

x _____ x _____ x

C) Solution: A's share = 5

B's share = 2

C's share = 4

D's share = 3

$$\text{Total} = 5 + 2 + 4 + 3 \Rightarrow 14$$

C's gets 1000 more than D

C's share = D's share

$$\frac{4}{14} \times \text{Total} = \frac{3}{14} \times \text{Total}$$

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D) Solution: Let $40\% x = \frac{2}{3} y$

$$x : y = ?$$

$$\frac{40}{100} (x) = \frac{2}{3} y$$

$$\frac{x}{y} = \frac{2}{3} \times \frac{5}{40 \div 20}$$

Hence: $\boxed{\frac{x}{y} = \frac{5}{3}}$

x _____ x _____ x

Q 2

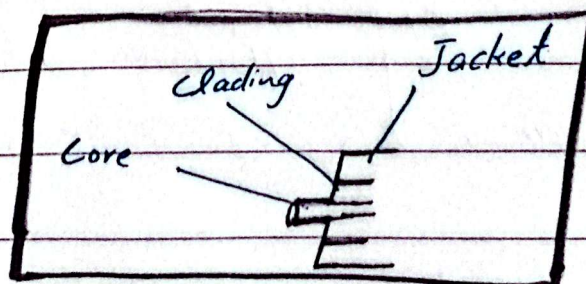
B) Optical Fiber

Definition:

Optical fiber is a fiber made up of plastic which is used for transmission of data through it. It is used instead of metal wire.

Composition:

The inner-most tube



of the fiber is made up of

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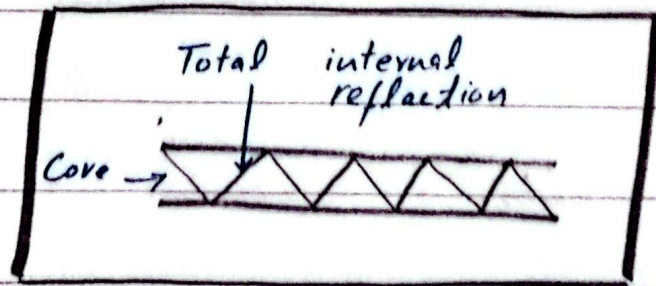
transparent glass or plastic which is responsible for transmission of information.

⇒ The outer part after core is called cladding that tries to protect loss of information from the core.

⇒ The outer most layer is called jacket. It is responsible for protecting the fiber from the environment and other factors.

How information transmit through Optical Fiber?

Information transmit through optical fiber on the basis of total internal reflection.



Optical data or light strike against a wall of the

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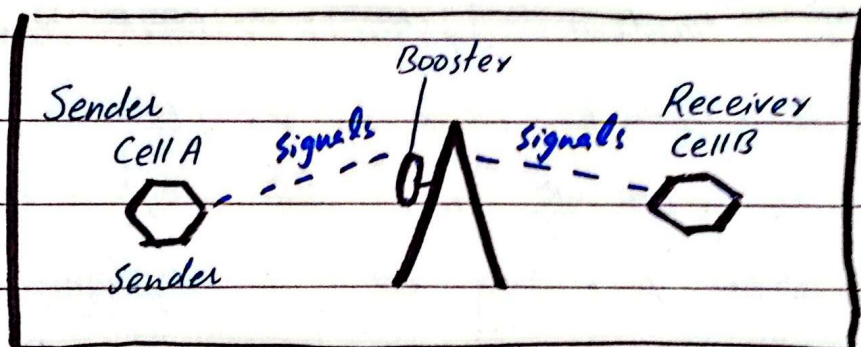
fiber and reflect and move.

In this way, data is transmitted from one point to another.

x ————— x ————— x

C) Working of a Cell Phone

A cell phone is act as a radio where radio signals are used for communication.



Encoder:

Encoder of a cell phone encodes voice or information into radio signals.

Decoder:

Decoder in the receiver's cell phone decode the radio signals that it has received.

Booster:

It boosts the radio signals which make it possible to the transmission of voice from one place to another place.

x ————— x ————— x

D) Note on:

a) RAM and ROMRAM

→ It is random access memory.

→ It is responsible for temporary programs when a system is running.

→ It is a temporary memory and used for quick access to a program.

→ It can be changed in a system.

ROM

→ It is called read only memory.

→ It is always active when a system is on.

→ It is a permanent memory and slower than RAM.

→ It is fixed and cannot be changed.

Software

→ This part of computer cannot be touched.

→ It is responsible to run programs in the computer.

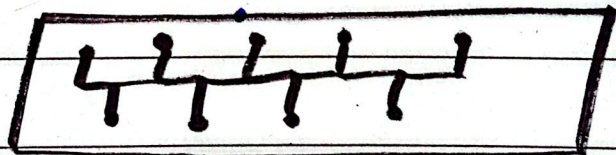
Hardware

→ This is a tangible part of computer.

→ It is hard form and work as per the instructions of software.

Computer Bus

Computer bus is the connection of nodes that is responsible for the transmission of information.



Bus of Computer

