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18
no

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Question No #1

(b)

Data:-

Two numbers are A and B

$$A : B = ??$$

Solution:-

$$5\% \text{ of } A + 4\% \text{ of } B = \frac{2}{3} (6\% \times A + 8\% \times B)$$

$$\frac{5}{100} \times A + \frac{4}{100} \times B = \frac{2}{3} \left(\frac{6}{100} \times A + \frac{8}{100} \times B \right)$$

$$\frac{5A}{100} + \frac{4B}{100} = \frac{2}{3} \left(\frac{6A}{100} + \frac{8B}{100} \right)$$

$$\frac{5A + 4B}{100} = \frac{2}{3} \left(\frac{6A + 8B}{100} \right)$$

$$\frac{5A + 4B}{100} = \frac{12A + 16B}{300}$$

$$300(5A + 4B) = 100(12A + 16B)$$

$$1500A + 1200B = 1200A + 1600B$$

$$1500A - 1200A = 1600B - 1200B$$

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$$300A = 400B$$

$$\frac{A}{B} = \frac{300}{400}$$

$$\boxed{\frac{A}{B} = \frac{3}{4}}$$

The ratio of A:B is equal to 3:4.

Ex 10

Data:-

Money is distributed among A, B, C, D in the proportion of 5:2:4:3.

find their shares = ?

Solution:-

$$\begin{aligned}\text{Sum of ratio} &= 5+2+4+3 \\ &= 14\end{aligned}$$

$$\text{Money} = x$$

$$A's \text{ share} = \frac{x}{14} \times 5 = \frac{5x}{14}$$

$$B's \text{ share} = \frac{x}{14} \times 2 = \frac{2x}{14}$$

$$C's \text{ share} = \frac{x}{14} \times 4 = \frac{4x}{14}$$

$$D's \text{ share} = \frac{x}{14} \times 3 = \frac{3x}{14}$$

If C gets 1000 more than D.

$$C = \frac{4x}{14} + D$$

$$1000 = \frac{4x}{14} - \frac{3x}{14}$$

$$1000 = \frac{4x + 3x}{14}$$

$$1000 = \frac{7x}{14}$$

$$1000 \times 14 = 7x$$

$$14000 = 7x$$

$$x = \frac{14000}{7}$$

$$x = 2000$$

putting the value of x one by one

$$A's \text{ share} = \frac{5x}{14}$$

$$= \frac{5 \times 2000}{14} = \frac{10,000}{14}$$

$$A = 714$$

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$$B's \text{ share} = \frac{2x}{14}$$

$$= \frac{2 \times 2000}{14} = \frac{4000}{14}$$

$$B = 285.7$$

$$C's \text{ share} = \frac{4x}{14}$$

$$= \frac{4 \times 2000}{14} = \frac{8000}{14}$$

$$C = 571$$

$$D's \text{ share} = \frac{3x}{14}$$

$$= \frac{3 \times 2000}{14} = \frac{6000}{14}$$

$$D = 428.5$$

The B's share is 285.7
gets from the total money of 2000
with proportion 2.

Q(d)

Data:-

Two numbers are A and B

If:

$$40\% \text{ of } A = \frac{2}{3} \text{ of } B$$

$$\frac{40}{100} \times A = \frac{2}{3} \times B$$

$$\frac{40A}{100} = \frac{2}{3} B$$

$$\frac{2A}{5} = \frac{2}{3} B$$

Ratio $A : B = ?$

$$\frac{A}{B} = \frac{2/5}{2/3}$$

$$\frac{A}{B} = \frac{2}{5} \times \frac{3}{2}$$

$$\frac{A}{B} = \frac{3}{5}$$

⇒ The ratio of first number to second number is $3 : 5$

Question No # 02

• — (b) — •

Optical fibre :-

Optical fibre is a data transmitting structure which is used to transfer information in the form of visual packets of light moving through the hollow tube.

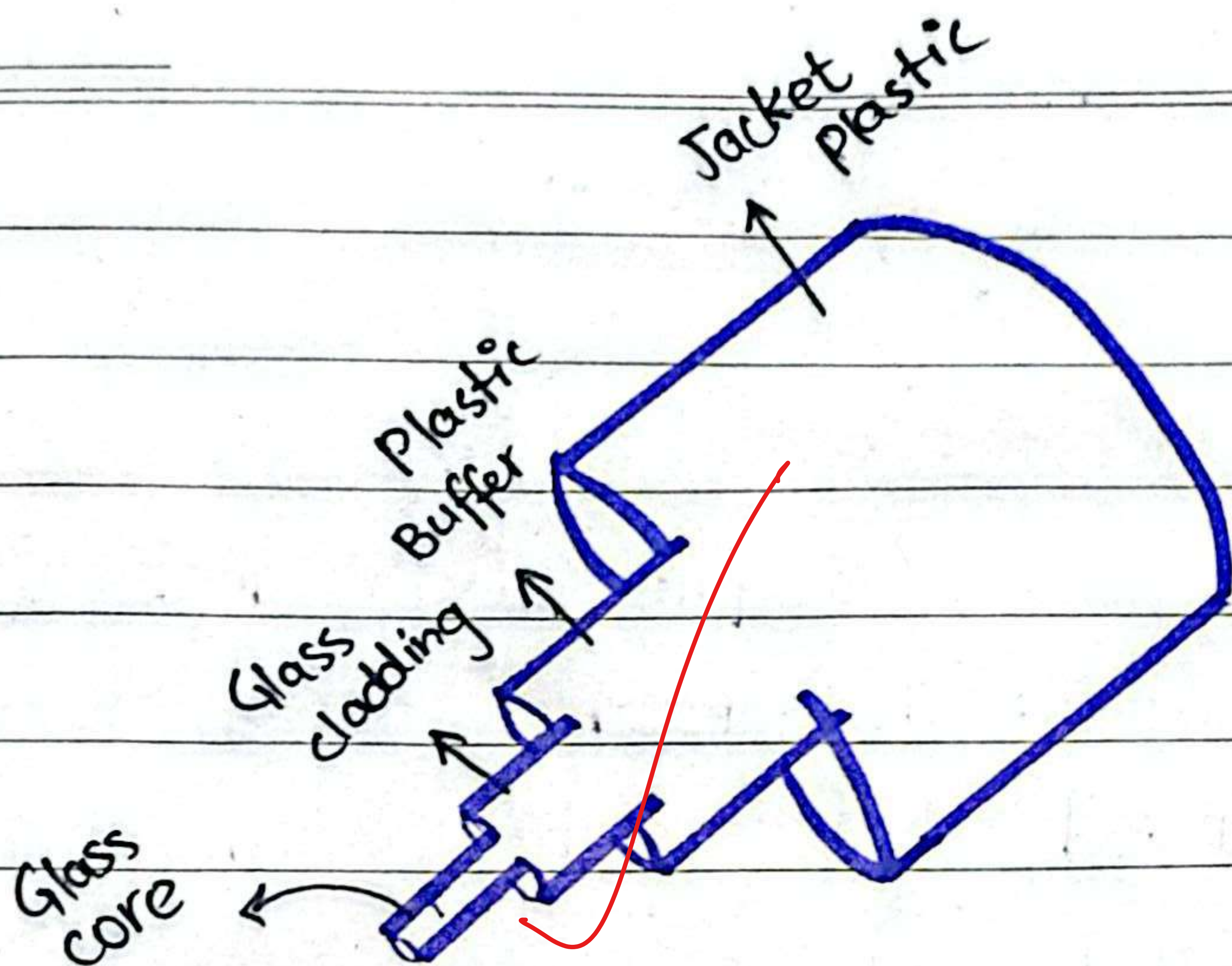
⇒ The study of optical fibres is called fibre optics.

Structure of Optical fibre:-

The optical fibre consists of mainly four parts known as core, cladding, buffer, and outer jacket. The **core** is the innermost part made up of glass responsible of light transmission.

Buffer is outer layer of core which helps the light to reduce refracting outside. It is made up of plastic.

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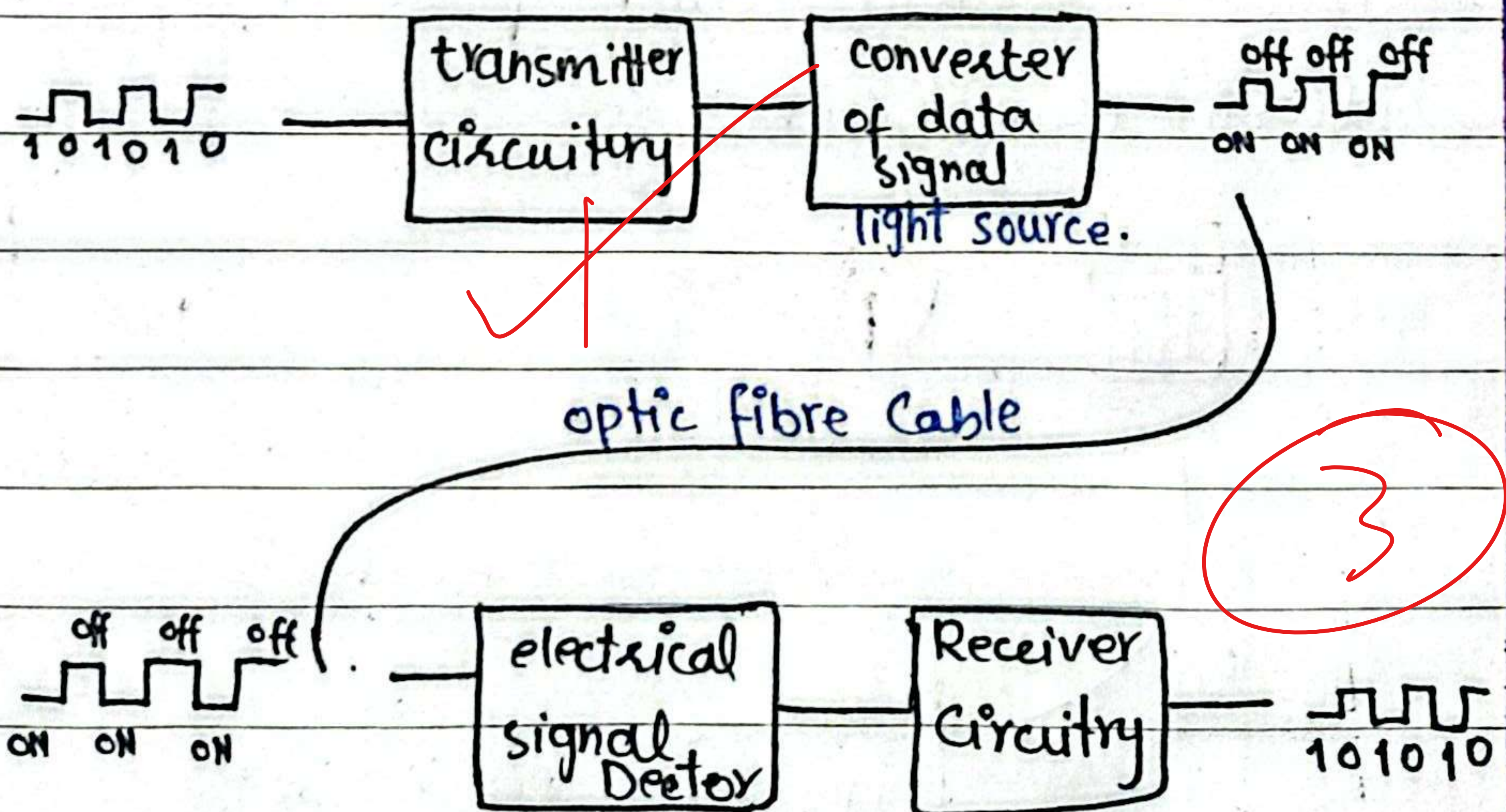
= Structure of Core

Working Principle of Optical

Fibre :-

Total internal Reflection

Optical fibres send data in the form of light wave which converted into electrical signal by using transmitter circuitry and receiver circuitry.



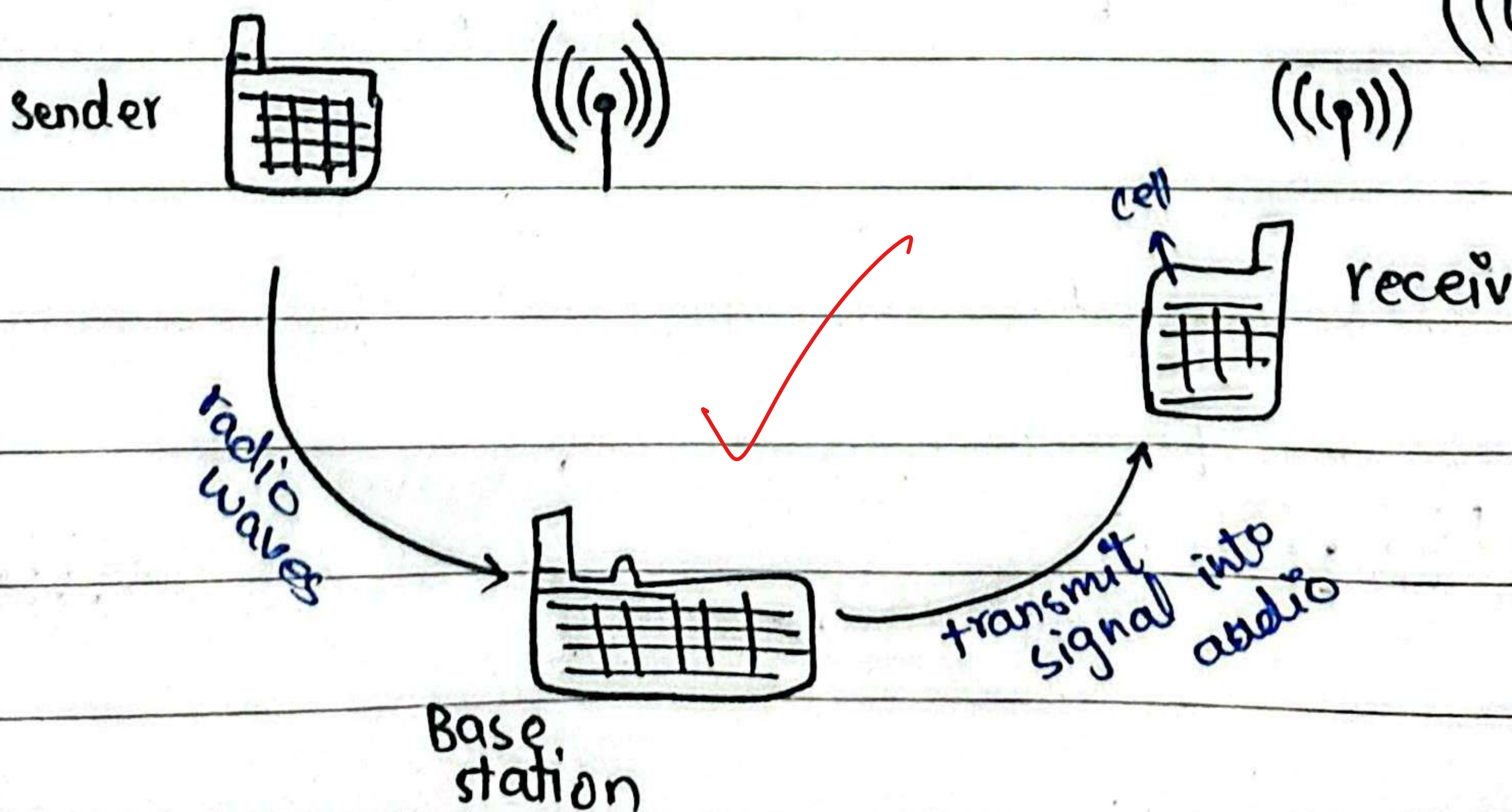
Cell phone

Cell phone :-

Cell phone is an instrument which work in Networked area by using a cell site or base station which enables the cell to make calls for transmitting information. and signals in wide range of area on Earth's surface.

Working of Cell phone :-

The cell phone works effectively in open wide area by using radio wave and converting radio waves into audio wave through as cell base station. There is a sender and a receiver which plays significant role in transmitting signals.



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Cell phone helps people to make easy transfer of information in every region of the Earth by moving accessible signals received from base station in the form of radio waves.

• add •
• cell •

RAM and ROM :-

RAM :-

RAM is also known as **Random Access Memory** used in the computer system for their proper working. RAM can be changed, installed, and removed for the better efficiency of device. The speed of working of computer is increased when RAM is connected. As computer is shut down and RAM is removed, the working of computer slow down.

ROM :-

ROM is also known as **Read Only Memory**, which cannot be changed or removed from the computer easily.

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ROM is the part of computer software which improves the efficiency of work and stores the information permanently.

Q6

i) Hardware and Software:

Hardware:-

Hardware is the certain parts of computer which can be seen or removed from the computer. These are also known as **peripheral part** which are categorized as input hardware and output hardware.

Input Hardware ⇒ Mouse, Keyboard, CPU

Output Hardware ⇒ printer, Speaker, Hard chips.

Software:-

Software are the system attached with computer which cannot be seen or removed from the computer. It works to run the computer system.

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Software word is proposed by **Alan**
Turing and used in 1957.

Example :- Data base, Web Browsers
MS Excel.
