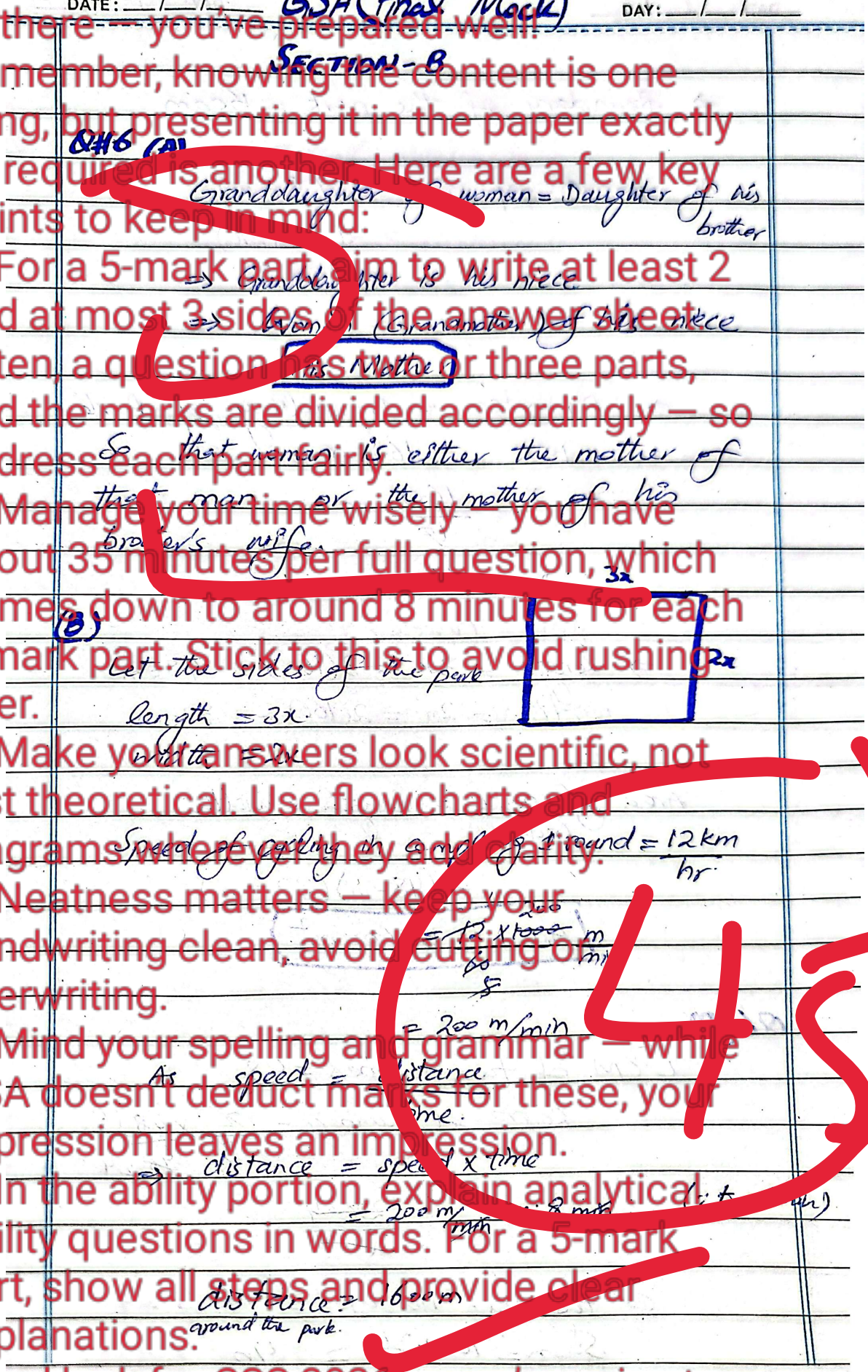
Dos and Don'ts for the General Science & Ability Paper

Hi there — you've prepared well! Remember, knowing the content is one thing, but presenting it in the paper exactly as required is another. Here are a few key points to keep in mind:

1. For a 5-mark part, aim to write at least 2 and at most 3 sides of the answer sheet. Often, a question has two or three parts, and the marks are divided accordingly — so address each part fairly.
2. Manage your time wisely — you have about 35 minutes per full question, which comes down to around 8 minutes for each 5-mark part. Stick to this to avoid rushing later.
3. Make your answers look scientific, not just theoretical. Use flowcharts and diagrams wherever they add clarity.
4. Neatness matters — keep your handwriting clean, avoid cutting or overwriting.
5. Mind your spelling and grammar — while GSA doesn't deduct marks for these, your expression leaves an impression.
6. In the ability portion, explain analytical ability questions in words. For a 5-mark part, show all steps and provide clear explanations.

Good luck for CSS 2026 — you're going to ace it, in sha Allah! 🌟



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⇒ Boundary of the park = 1600m

As perimeter of park = 2(l + w)
= 2(3x + 2x)
= 2(5x)
= 10x.

⇒ Perimeter = Boundary of Park.
10x = 1600 m
⇒ x = 1600/10
∴ x = 160 m

⇒ length = 3x = 3(160) = 480 m
width = 2x = 2(160) = 320m

Area of park (rectangle) = length × width.
= (480m)(320m)
Area = 153600 m²

Q6(D)

L.C.M of two numbers = 48
Ratio of numbers = x/y × 48/48 16/24
= 2×24 / 3×4

So the req. no. = 16 & 24
Sum = 16 + 24 = 40

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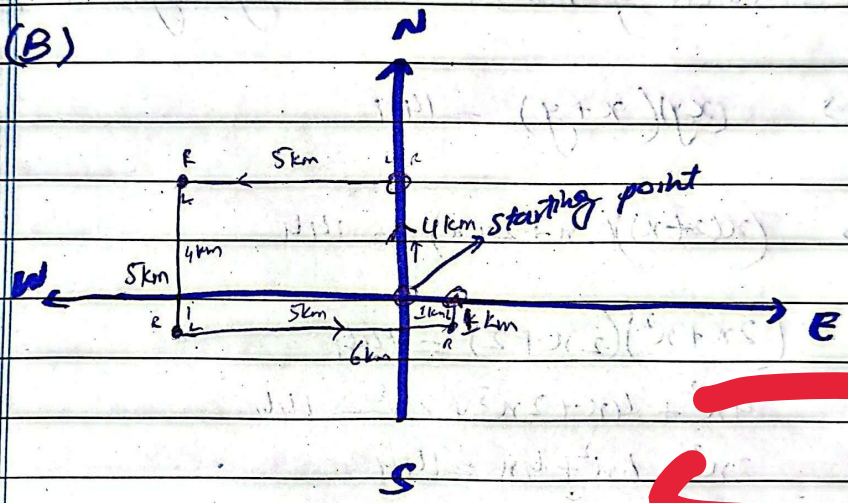
Q#8

(A)

A is right to B
E is left to C
B is right to D
Then "D" is in the middle.

(B)



i) How many km away from place you started
= 1 km

ii) Which direction you running before finishing
North

iii) After 2nd turn direction
= South

iv) Finishing point to starting point direction
= towards West.

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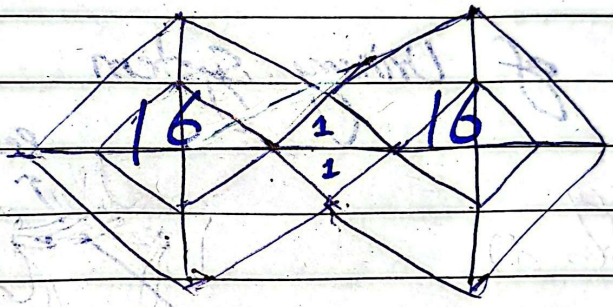
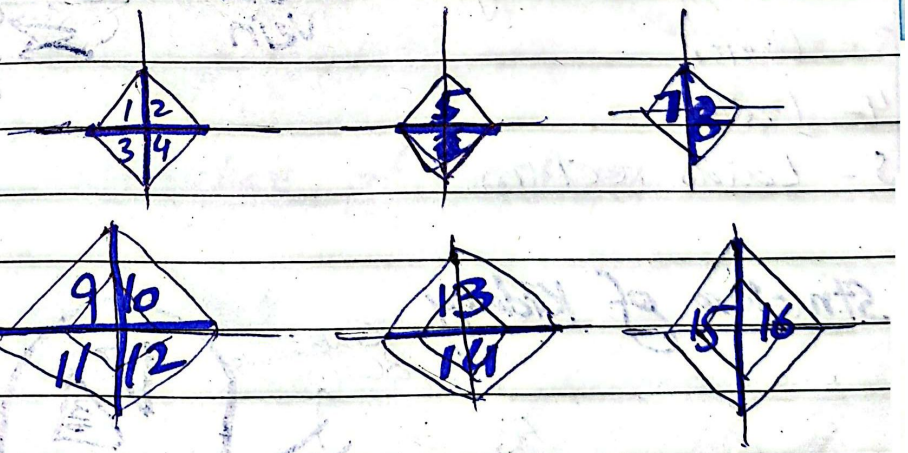
C. Find odd

a) THRSI → SHIRT
b) AOTC → [illegible]
c) EOUBSL → BLOUSE
d) KTRIS → [illegible]RT → Odd one
e) RETAEWS → SWEATER

D. Number of triangles





Total no of Δ = 16 + 16 + 2
= 32 + 2
= 34

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(Section-A)

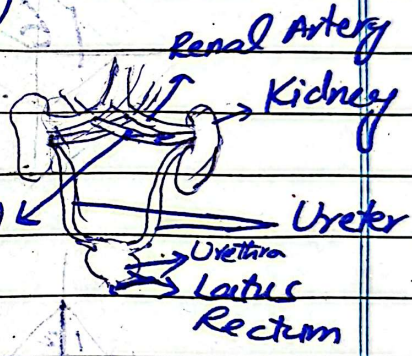
Q#2 (b)

Urinary System

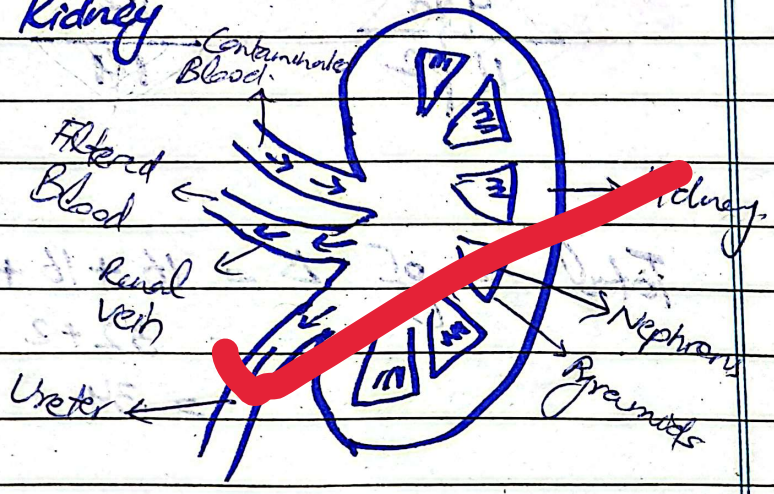
Urinary system is a system in humans which is responsible for the formation of urine and removes the waste products and harmful substances from the body in the form of urine.

Components of Urinary System

1- Renal Artery (Contains blood)
2- Kidney (2 Kidneys)
3- Ureter
4- Urethra
5- Latus rectum.



Structure of Kidney



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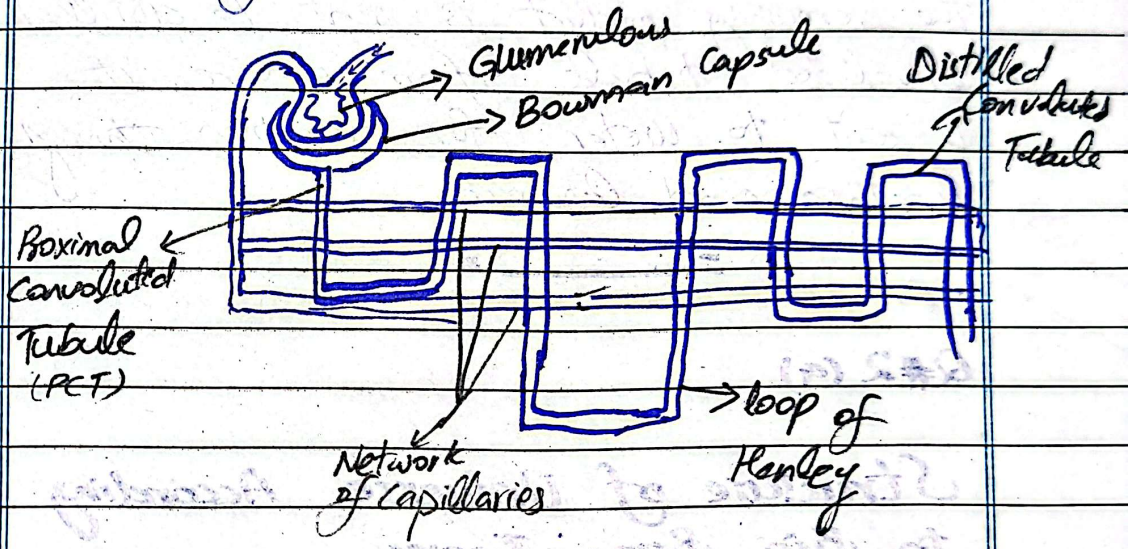
Working of Nephron

Nephron is the central unit of unitary system. There are about 1 Million nephrons in each kidney. Nephrons perform function in 3-steps.

1- Glumerulous filtrate
2- Reabsorption
3- Excretery Function



Structure of Nephron

1) Glumerous Filtrate

The blood is filtered in glumerulous and proteins and fats remain in the blood. This blood is then filtered in Bowman's capsule where other mineral toxins are removed from the blood. This blood is then passed to PCT

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② Reabsorption

When the blood passes through PCT, it passes through loop of Henley. There are a number of capillaries present over PCT which reabsorb the essential minerals and mix to the blood stream.

③ Excretion

After reabsorption with capillaries the remaining product is sent to distilled convoluted tubule from where it is sent to ureter for excretion through urethra and Bladder.

Q#2 (a)

Structure of Universe According to Big Bang Theory

According to Big Bang Theory, this universe came into being some 13 billion years ago. The universe known today — in the form of galaxies, solar system, stars, planets and other celestial bodies does not existed in this form rather a hot dense matter existed which then expanded to form universe.

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Concept of Singularity

The universe existed in the form of a singularity. A hot and extremely dense matter existed which then exploded and started to expand.

At t=0, s=0

When time had not started, the universe was extremely hot.

At t=1, s=1

When time passed a little the universe started expanding and temperature began to fall.

t= ---, S = ---. (Quark Formation)

When time further passed the temperature further decreased to 10000°C and the quarks existed. The structure of universe was in the form of quarks.

t = ↑ , s = ↑ (Neutrino Formation)

When time further passed the universe further expanded and other nano particles like nutrino came into being.

When T=10000°C (Protons & Neutrons) No Quarks

Protons and neutrons formed. Time further passed and universe expanded more.

Nucleus Formation

No Protons & Quarks

When Temperature further decreased the electrons also formed and basic elements like Hydrogen and Helium came into being

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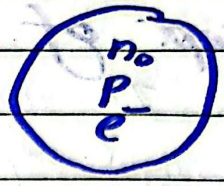
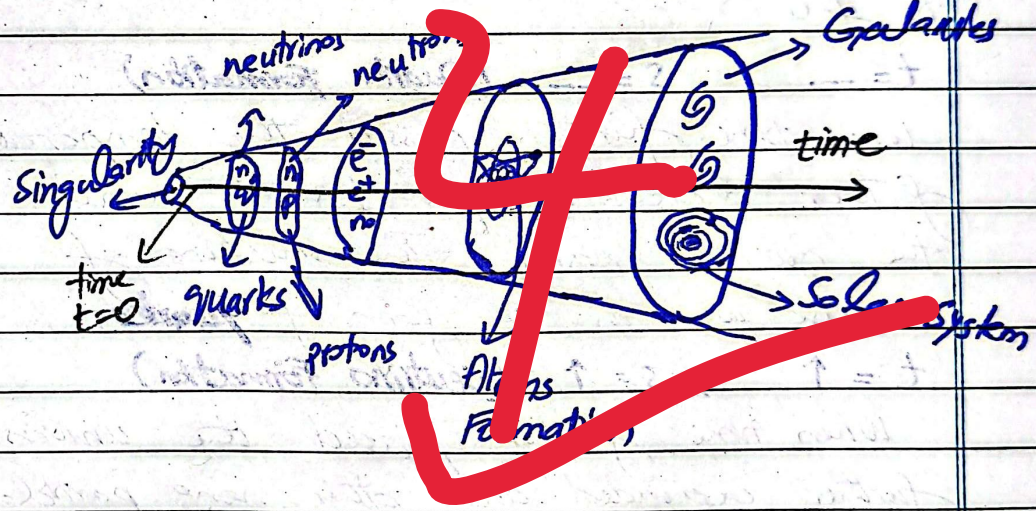
Nucleus formed and the atom came into existence.



Known Universe Formation

When the universe further cooled down and expansion further increased all other elements known to us came into existence. Then galaxies formed. Solar system came into existence and slowly and gradually universe cooled down to a certain temperature and the universe known to us came into being.



Q#2(c)

Unbalanced Diet

A diet which does not contain Vitamins, nutrients, fats, proteins, carbohydrates in proper amounts is called an unbalanced diet.

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Effects of Un-balanced Diet

Defeciency or Efficiency of Vitamins

Vit. A → Defeciency of vit A in food ultimately leads to blurry vision, headache

Vit D → Improper intake of vitamin 'D' leads to bone deformation and rickets

Vit E → Defeciency of vitamin E causes skin diseases, Lack of fertility

Vit K → Unbalanced food can also change the balance of vitamin K in the body which is responsible for blood clotting

Vit C → Scurvy, Bleeding gum

Nutrients Defeciency or Efficiency

Calcium → Bone deformation

Iron → Defeciency of Blood, Weakness, Anaemia

Potassium → Blood clotting issues

Carbs, Fats, ~~Sugar~~ Proteins Imbalance Effects on Health

Carbohydrates → Instant source of energy is not available. Makes stressful. Extra amount of it can lead to diabetes.

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Fats → Fats extra can clog the arteries and blood vessels leading to angina and heart diseases

Proteins → Proteins necessary for growth and effective human performance. Its deficiency leads to stunted growth

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Q#3

(b) Ceramics

Ceramics is a general term used for non-metallic solids. They are mostly made up of clay under high temperature and pressure. Due to their specific properties they have many applications in industry.

Properties of Ceramics

i) Ceramics are heat resistant materials,
ii) Corrosion resistant
iii) Non-brittle
iv) Extremely hard
v) Resistant to bending
vi) Non-conductor of electricity
vii) Inert in nature — no chemical reaction
viii) Cannot be re-moulded
ix) Can be made electric conductors when Fe_2O_3 (Iron oxide) is present in them.

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Applications of Ceramics

Earthenware — The most common applications of ceramics is earthen ware. Simplest form of ceramics and is easily breakable due to porous structure.

Stoneware — Stonewares are also an example of ceramics. They are extremely beautiful and expensive than earthenware.

Porcelain — Also known as Chinaware as the original technique came from China. They are also known as "Bone China" or "fine bone". These are light weight and translucent. Extremely beautiful and expensive form of ceramics is porcelain.

Manufacturing Materials — Tiles are the common example of ceramic building materials. Bricks are also ceramics.

Glass and Glassware — Ceramics also include glass and glassware.

Nano-Ceramic Materials — Modern day ceramics are nano-ceramics which are extremely elastic can also show high toughness and strength depending on the size of particles.

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Q# 3(c)

Optic Fibres

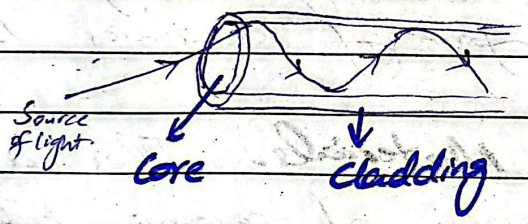
Optic fibres are tiny glass strands or plastic strands through which information passes in the form of light wave. these are extremely reliable and effecient to send information over long distances in short time.

Working of Optical Fibre

Optical fibre works on two principles.

i) Total internal reflection

ii) continuous refraction



Optical fibre consists of two parts. core and cladding. Light enters into the core through a light source. Core has high refractive index while cladding has low refractive index.

Light that enters into optical fibre works on the principle of total internal reflection and the reflected light is continuously refracted and bending is made smooth to avoid the loss of information. the receiver on the other end then decodes.

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this light (information) into electrical signals.

Q3(d)

Food Additives

Food additives are certain compounds that are added into food for different purposes and these additives are further categorized according to the purpose they serve.

For example

- Preservatives — For long availability of food in good form.
- Food colours — For better colour of food this is added.
- Appetizer — To enhance food quality appetizers are added
- Food Flavors → To further enhance the taste of food certain food flavors are added eg. Strawberry flavor, vanilla flavor, chocolate flavor etc.

- Food Preservatives

Food preservatives are a type of food additive. These are deliberately added to food to preserve the food for a long time and to keep

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their texture and taste the same as it was at the time of manufacture.

Food Adulteration

Food adulteration is a term used when something harmful is deliberately added to food which affects the quality or quantity of food. This is done to seek some kind of material gain.

For example

- Addition of water in milk
- Use of Brick powder in Red chillies
- Use of limestone powder in dry milk etc.

Food Contamination

Food contamination is a term which is used when something harmful is unknowingly added in the food. It can contaminate food at any stage from manufacturing to serving at the table. Its causes can be unhygenic environment or human negligence.

For example - pesticides residues, admixture with food - microbial toxins - chemical residues from packing materials