Day:

Nowal Ashraf
Batch 065
GSA

Date:

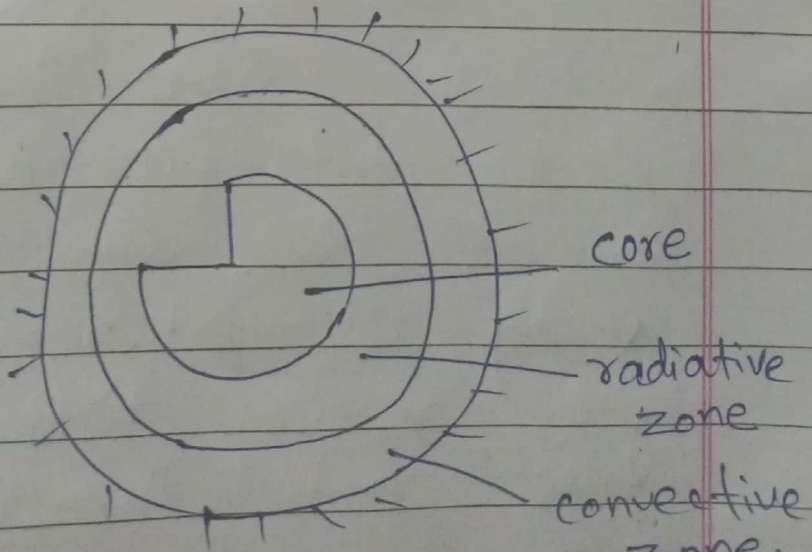
Q NO. 3 :-

A :- Sun

"Sun is a star centred in our glaxacy."

The mass of the sun is 2×10^{30} Kg and the gravitational pull of sun is 274 m/s^2

Structure Of the Sun:-



sun

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There are 3 major parts of sun.

I Core.

II Radiative Zone

III Connective zone.

Core is the innermost part of the sun. It is the sight for fusion reaction. Here the temperature is hieghest reaching to 20,000°C.

Radiative Zone is the central part of the sun. It emitts radiations and sends energy in outer space.

Convective Zone is the outermost bright strip of the sun which is visibly illuminating. Convection zone receives heat from inner parts through convection.

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Composition of Sun:

Sun is mainly formed of two gases

I Hydrogen (H)
II Helium (He).

Source of Energy at the Sun:

The source of energy at the surface of sun is fusion reaction. Fusion reaction takes place in the core where two hydrogen nuclei fuse to form helium nuclei and huge amount of energy is released in the form of heat and light.

$$H + H \xrightarrow[\text{reaction}]{\text{Fusion}} He + \text{Energy}$$

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B:- Tsunami

"Tsunami is the disaster happening in oceans and seas due to large displacement of water in ocean."

Tsunami are generally known as sea storms. They are catastrophic in nature ruining coastal areas.

How Tsunami's are generated:

Tsunami's are generally created by large water displacement of huge portion of water or due to earthquakes in the oceans or extra-large waves on the surface of water due to pressure change.

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I Tsunamis are generated when **tectonic plates** under the ocean move — displacing large portion of water which disturbs the surface resulting in large water waves causing tsunami.

II Another major reason of creation of tsunami is the air pressure at the surface of ocean. When warm water rises up leaving low pressure behind to accomodate that space cold water moves towards it resulting a cyclone in the sea accompanied by low atmospheric pressure. This storm moves towards land where it results in precipitation and thunderstorms with high speed winds.

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Examples of Recent Tsunami's:-

I Tsunami of 2004 in Arabian ocean hit the south asian countries leaving 6 million effecties from Pakistan, India, Maldives, Srilanka, Indonesia and Malaysia.

II Most recent example of tsunami is tsunami Milton in Atlantic Ocean hitting the Florida- U.S.A.

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C:- Environmental Pollution

"Any physical, chemical or biological change in the environment which effects its quality is called environmental pollution."

Environmental Pollution can be of following types.

I Water Pollution
II Air Pollution
III Land Pollution
iv Sound Pollution

Harmfull Effects Of Environmental Pollution:

Environment pollution causing following major harmfull effects;

I Primary and secondary

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air pollutants, GHGs and CO_2 increasing the temperature of earth which is called as **global warming.** According to UN 1.5°C rise in temperature so farth from industrial revolution.

II Deteriorating the quality of portable drinking water. Only 2% water on earth is portable which is being polluted by environmental pollution.

III Chlorofluorocarbons emitted in atmosphere result in ozone depletion which causes disruption in food change, infectious disease and climate change.

IV Disasters such as floods, rising sea levels, evalanches and glacier meltings are products of environmental pollution.

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V Deteriorated air quality leading to respiratory diseases such as asthma and bronchites. UNDP says almost 6-7 billion people undergoes respiratory illness annually.

Measures to Curb Environmental Pollution:

Following measures should be adapted to control pollution:

I Sustainable development goals (SDG's) set by UN should be followed.

II Restriction should be imposed on emissions from industries and transport vehicles.

III Sustainable urbanization and agricultural practices may reduce pollution.

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IV Implementation of international treaties to mitigate pollution such as Montreal protocol, Rio declaration, kyoto protocol, bio-diversity conservation treaty.

V Proper waste management system for the disposal of waste materials should be followed.

D:

Wireless Communication and Satellites

Wireless communication system is a type of geo-spatial technique in which information or data is collected without touching it physically.

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Wireless communication system is based on catching radio waves through antemas and towers. **Examples** of this wireless communication systems are

I Mobile Phones
II Internet.
III Television and Radio broadcast

These are connecting us throughout the world without any wire system making the world a global village. This Wireless system operates through satellites.

Working of Satellite.

A satellite is any object revolving around the earth. **Moon** is the natural satellite of earth moving around the earth - completes its rotation in twenty four hours.

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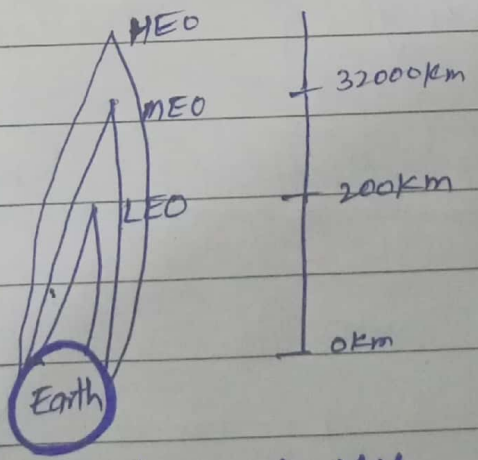
There are three major types of satellites.

I Low earth Orbits — revolving at the hieght of lers than 2000km above the earth surface.

II Middle earth Orbits - revolving between 2000 — 32000km above earth surface. For example radio and television satellites.

III High Earth Orbits — revolving above 32000km from earth surface they are mainly called geo-stationary satellites.



Working units of satellites:

I Obsewing unit in vacuum

II operating unit (operating systems)

III consumer unit (Mobiles, t.v, computer)

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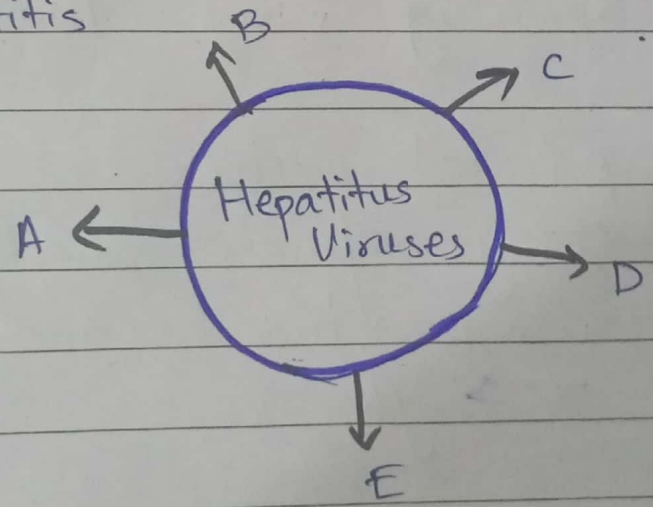
Q NO 4 :-

Hepatitis

* Hepatitis is basically a liver inflammation caused by five viruses :

Types Of Viruses And Hepatitis:

There are Five viruses that are causitive agent of hepatitis



Hepatitis A
Hepatitis B
Hepatitis C

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Hepatitis D
Hepatits E

Hepatitis A and B are recoverable easily. Normally they are called Jaundice. Heptitis C is a chronic disease which is infectious. Hepatitis D spreads from polluted water.

Causes Of Hepatitis:

Spreading virus through

I polluted water
II Body fluids such as saliva, blood and semen.
III Through air.

Symptoms Of Hepatitis:

Some common symptoms are;

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I Fever
II Fatigue
III body pain
IV vomit and nausea
V yellowing of eyes and
VI urine
VII Respiratory issues.
VIII Lowering of Haemoglobin level

Prevention Measures:

One should follow following preventive measures;

I Drink clean healthy water.

II Carefull blood transfusion and sexuall relations.

III Aloofness from the patient.

IV Healthy eating.

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B: Food Preservation

"Techniques used to increase the shelf life of food items are collectively called food preservations."

This method was introduced by **Louis Pasteur**. He boiled the milk and increased its shelf life by destroying bacteria and germs in it.

Some common food preservation techniques are;

I Pasteurization:

This technique is mostly used to make milk germ free. At first

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milk is boiled at high temperature and then for 15 minutes below 42°C to kill all the germs.

II Canning:

Most useful food preservation technique of today is canning. The food items are sterilized and packed in air tight metal or glass containers to keep it germ free and fresh for long times.

III Salting:

This method was commonly used in ancient times to preserve meat. Meat was salted and spread in sunlight the water is evaporated and salt makes it germ-free for long time.

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IV Use of Acetic Acids and benzoic acid:

Acetic acids and benzoic acids are frequently used to preserve vegetable and fruits.

For example pickles — different vegetables are soaked in vinegar - acetic acid to preserve it and mainting its freshness and shelf life.

V Refrigeration:

Now, a days most common food preservation teehnique is refrigeration.

All the food items are refrigerated to make it fresh and long - lifed.

For example; fruits, milks, drinks, eggs and vegetables are refrigerated. Low temperature inhibits the growth of germs and bacteria.

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C:

Fertilizers

"Fertilizers are the materials used to increase the nutrients value of lands for better crops production."

Fertilizers are used in the fields since primitive times to increase the fertility of soil and production of crops.

Main Ingredients Of Fertilizers:

Three major ingredients of fertilizers are

I Nitrogen (N)
II Potassium (K)
III Phosphorus (P)

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Types of Fertilizers :-

There are two major types of fertilizers.

I Organic Fertilizers :

These are natural fertilizers and the oldest type of fertilizer since man evolution on earth. Organic fertilizers are;

I Animal Dunk
II Manure
III Organic ashes
IV Composte.

II In-organic Fertilizers

These fertilizers are synthetic-prepared in lab. They are used according to deficiency of nutrient in the soil. They are soluble in water and immediately available to plant for absorption.

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Some in-organic Fertilizers are;

I Urea
II DAP
III Calcium phosphate
IV Potassium salts.

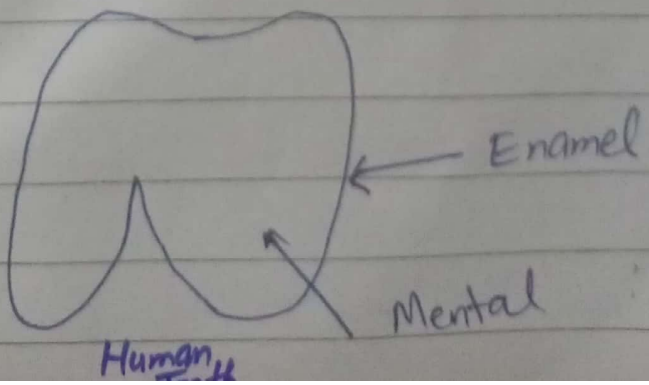
⟷

D:

Human Tooth

There are 32 teeths present in the oral cavity of humans working for food digestion.

Anatomy of Human Tooth:



Human

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These are the major parts of teeth.

I **Enamel** – The outermost layer which protects the inner sensitive part of the ~~earth~~ teeth.

II **Mantle** – The inner sensitive part of teeth is called mantle. It is connected to circulatory system through blood capillaries and also to nervous system through nerves.

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SECTION-II

Q No. 7:-

A: Distinguish I.Q and E.Q

I.Q:- I.Q refers to intelligence quotient of human being. I.Q test is being held to check the intelligence of a person by randomly asking question. Einstein and Allama Iqbal are considered high IQ level persons.

E.Q:- E.Q refers to emotional quotient. The emotions of a persons are examined it is mostly likely a psychological aptitude test to check the rationality of a person.

c:

Peter mows lawn = 40 mins.
John mows lawn = 60 mins.

How long will it take to mow together.

$$\text{Average} = \frac{40+60}{2} = \frac{100}{2} = 50 \text{ minutes}$$

They will mow the lawn in 50 minutes.

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D.:

Multiplied a number by 3/5 instead of multiplying with 5/3
%.age error = ?

let the number = x

$$x \times \frac{3}{5} = \frac{3x}{5}$$

should be $x \times \frac{5}{3} = \frac{5x}{3}$

$$\text{error} = \frac{3x}{5} - \frac{5}{3}x$$

L.C.M

$$= 15 \times \frac{3x}{5} - \frac{5x}{3} \times 15$$

$$= 9x - 25x$$

$$= 14x$$

$$=$$

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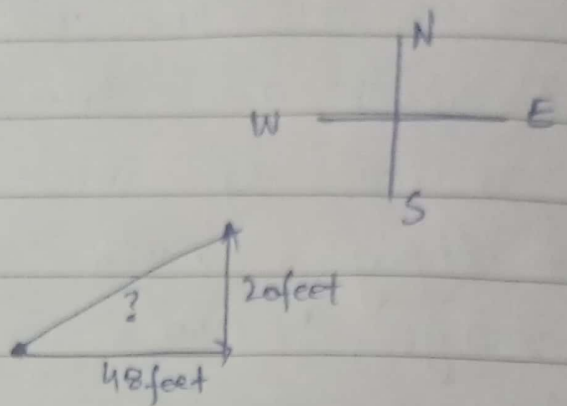
Q No. 8 :-

B :-



- Veena travelled 48 feet towards east.
- Then she turned and ran 20 feet towards north.
- How far shee is from starting point
- It is a triangle shape so hypotenos can be found out as

$$Hyp = \frac{(Base) + (perpendicular)}{2}$$

$$Hyp = \frac{48 + 20}{2} = \frac{68}{2} = 34 \text{ Feet}$$

she walked straight 34 feet

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D:-

37 = people like vegetable pizza

25 = People like chicken pizza

3 = Like niether.

probability of persons that like pizza = ?

Totall possibilities = 37 + 25 + 3 = 65

$$\text{Probability of event} = \frac{\text{Chances of event}}{\text{total probabilities}}$$

$$\text{probability of chicken pizza likers} = \frac{25}{65} = \frac{5}{13}$$

Answers.

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C:

Average marks = 52.15

Total students = 40

Find correctl average marks after adding one students marks.

$$\text{Average} = \frac{\text{Total Marks of students}}{\text{No. of students}}$$

$$52.15 = \frac{\text{Marks of students}}{40}$$

Total Marks of students = 52.15 × 40 =

2086

Marks wrongly added = 49

so

2086 - 49 = 2037

Correctly add 85 marks

2037 + 85 = 2122

Total marks = 2122

Total students = 40

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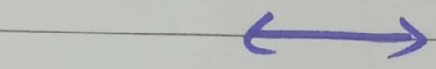
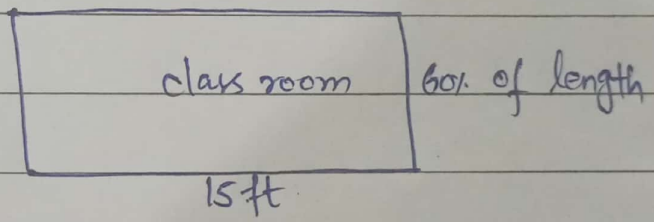
Average = $\frac{\text{Total marks}}{\text{Total students}}$

Average = $\frac{2122}{40}$ = **53.05**



A :-



Length of room = 15ft

Width = 60% of length

$\frac{60}{100} \times 15 = 9$ ft

Area of room = Length x Width

= 15ft x 9ft

= **135 ft^2**