Day: Date:

Q No-2.

A- Describe the structure of Universe according to Big Bang theory.

Answer

According to Big-Bang theory, the universe started as an infinitely hot dense point called singularity and then suddenly it expanded and cooled down. After 13.8 billion years of fundamental particles into atoms, stars, galaxies and other celestial objects. This rapid expansion is called inflation. This time, space, matter and energy were created, forming the basic elements of universe.

1- Inflation

Inflation is the process of increasingly rapid, exponential expansion of space called inflation.

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! 🌟

Day: Date:

2- Primordial Soup

As it cooled, Quarks formed protons and neutrons, then combined to create first light nuclei.

3- Cosmic Microwave background (CMB)

Approx. (380,000 years)

This event released light (photon) that had been trapped.

4- Cosmic Dark ages

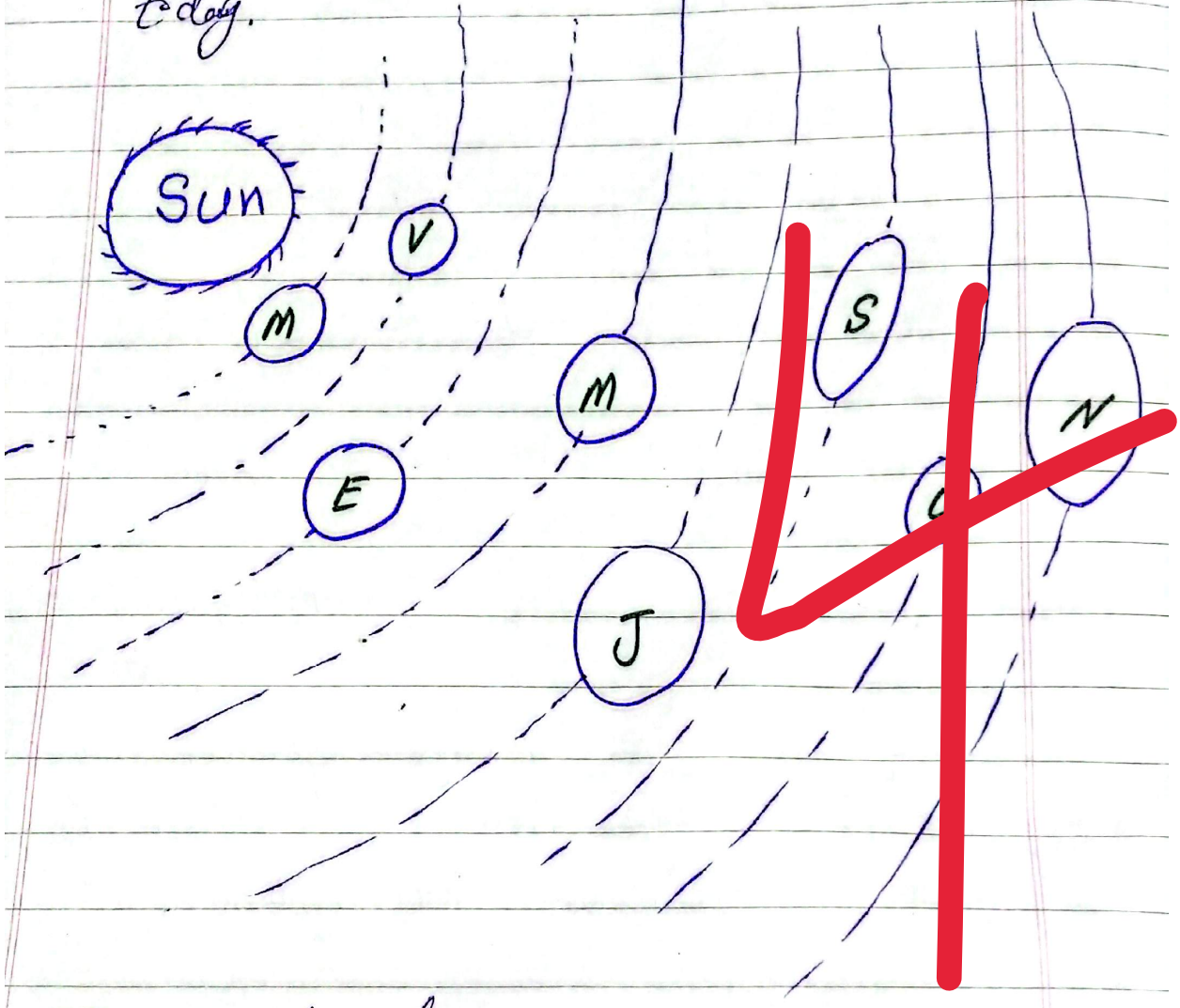
In dark period there was no stars. After that gravity began pulling clouds of hydrogen and helium together to form stars and galaxies.

5- Formation of Galaxies

Stars fused lighter elements into heavier ones seeding the universe for planets. Galaxies formed and clustered together due to

Day: Date:

due to gravity. out Solar System is in the Milky way. The expansions of the universe continues to today.



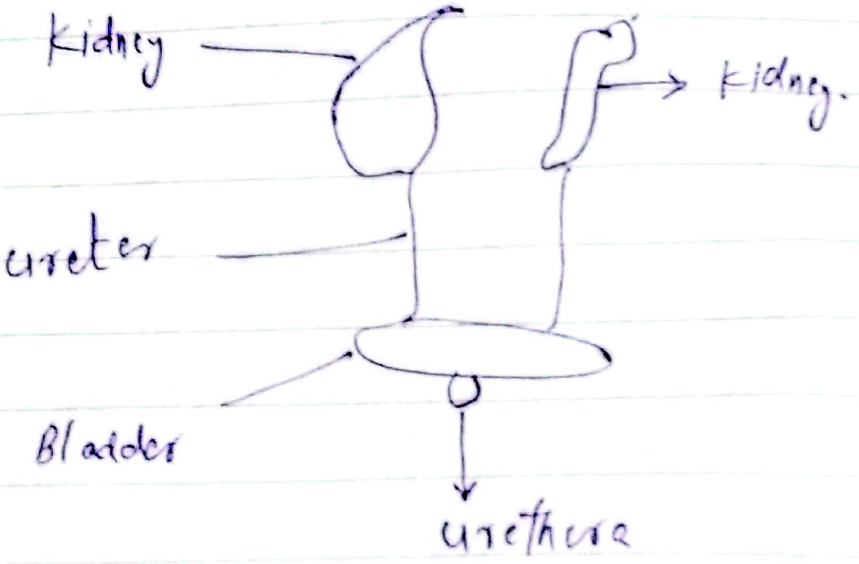
The structure of our Solar System is one part of the whole universe.

Q No-2

B- Define Urinary System and explain the working of nephron.

Urinary System.

The organ system responsible for producing and excreting urine, which includes the kidneys, ureters, bladder and urethra.

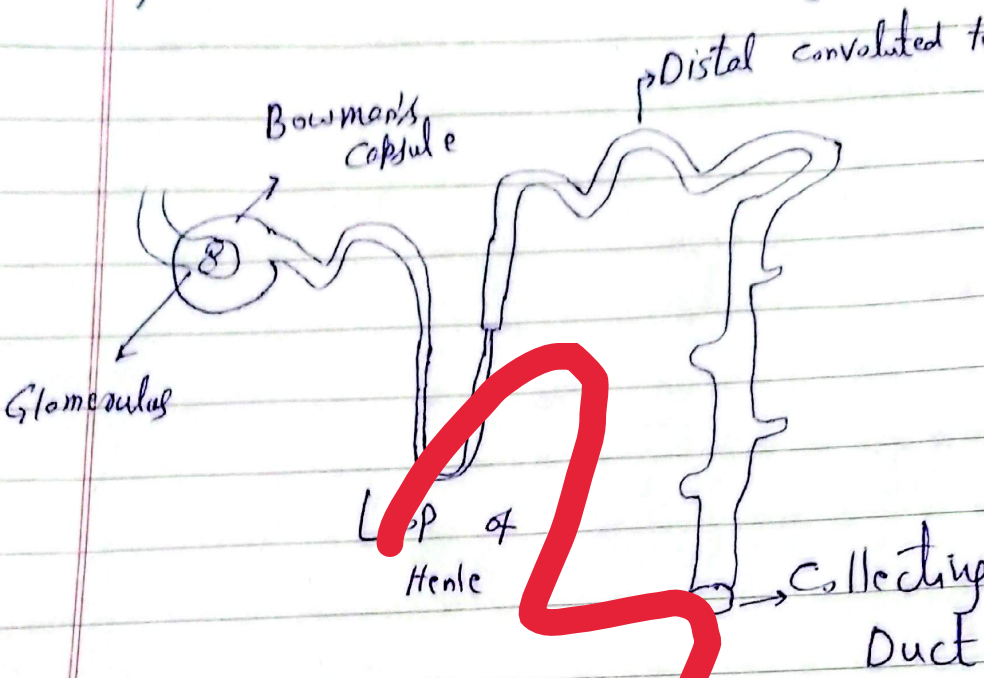


The extra excretion of body through multiple organs Came out from the human body the whole system is called excretory system.

Day: Date:

Nephron

The Nephron is the minute or microscopic structural and functional unit of kidney



Functions of Nephron

A nephron's main job is to filter blood, remove waste, and balance fluids and electrolytes to form urine. Filtration through kidney, Reabsorption and Secretion and the final excretion.

Day: _____ Date: _____

Q No-2

(C) What is unbalanced diet? How it affects the healthy living.?

Unbalanced Diet:

An unbalanced diet is one where you consistently eat too much or too little of essential nutrients like proteins, fats, carbs, vitamins, and minerals

Characteristics of an unbalanced Diet

1- Nutritional Deficiencies
2- Excessive intake
3- Inadequate Calories
4- Monotonous Eating.

Common Causes of unbalanced Dict

1- Poor food choices
2- Irregular Patterns 3, Limited access

Day: Date:

How unbalanced diet affects healthy living style.

An unhealthy diet significantly harms health by increasing risk for chronic diseases like heart diseases, stroke, type-2 diabetes, mental health issues on human life.

Major health impacts

1- Cardiovascular Diseases
2- Diabetes and obesity
3- Cancer
4- Mental Health Problems
5- Gut Health
6- Brain Function
7- Nutritional Deficiencies

How to improve

1- Increase fruits, vegetables, nuts and whole grains.
2- Decrease salt, Sugar, unhealthy fats, Sugary drinks.
3- Choose unsaturated fats over saturated fat.

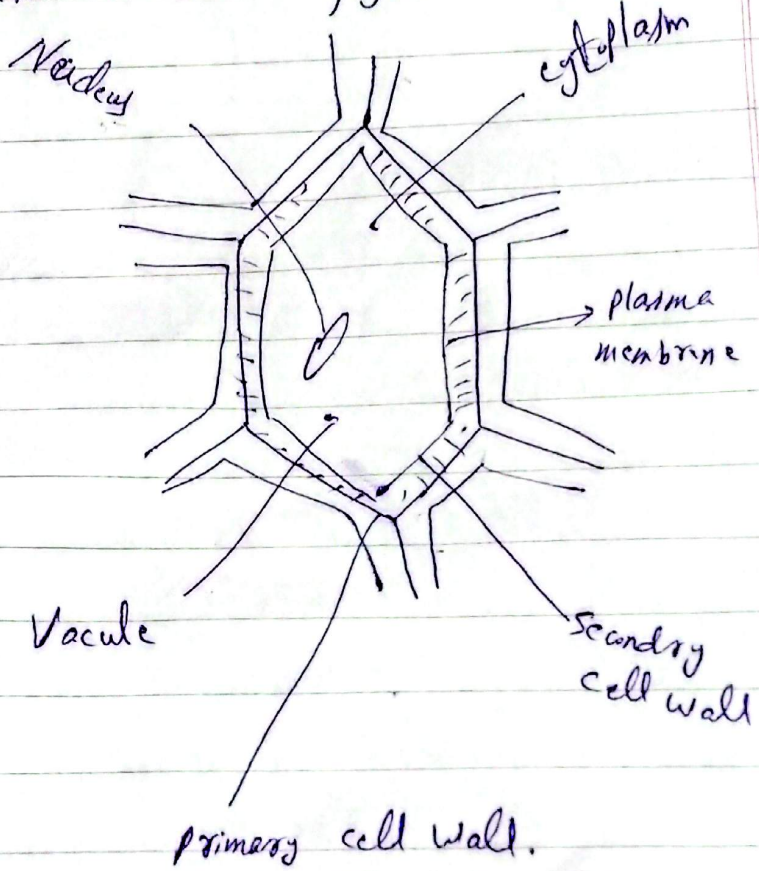
Day: Date:

QNo-2. (D)

Cell Wall

Structure of cell Wall

A cell wall can be seen in figure.



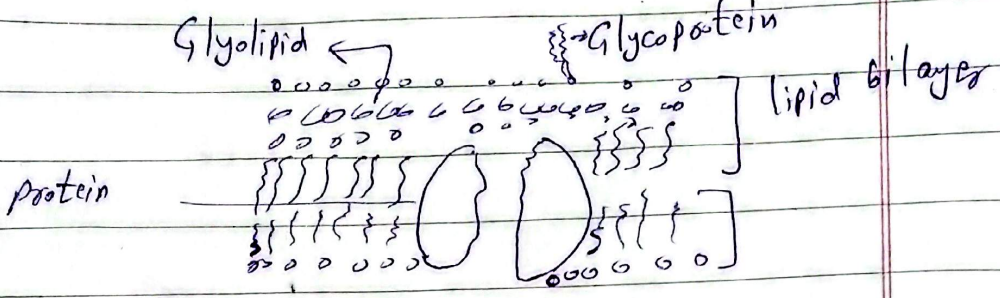
Functions of cell Wall

1- Structural support and shape.
2- protection
3- osmotic regulation
4- Nutoient Transport
5- Growth Control.

Day: Date:

Cell Membrane.

structure of cell membrence

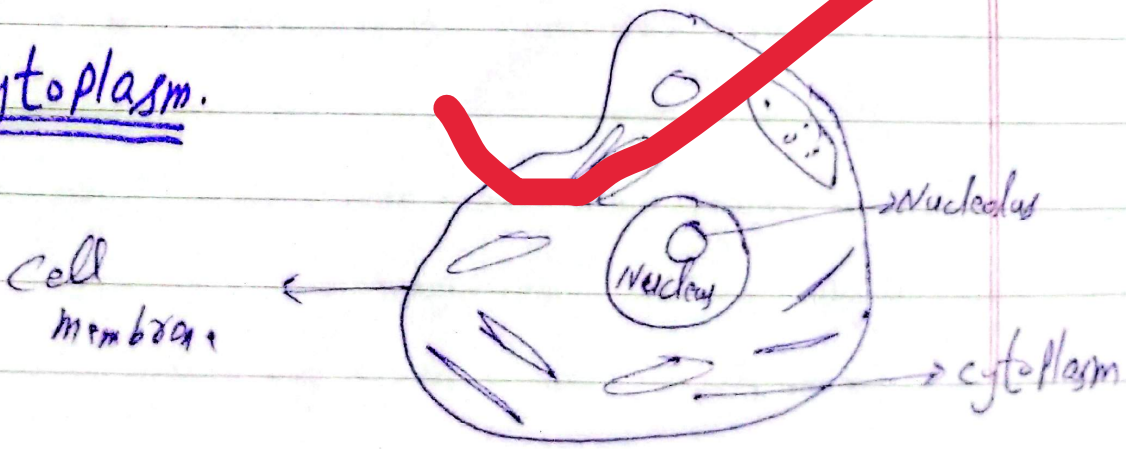


Cell membrane. All the membranes of cell. Similarly outer membrane of cell is called plasma membrane.

Functions of cell membrane

i- Protection and Barrier
ii- Selective permeability
iii- Cell communication
iv- Structural Support
v- Active transportation of Proteins.

cytoplasm.



Day: _____ Date: _____

Functions of Cytoplasm

1- Metabolic Hub
2- Structural Support
3- Transport Medium
4- organelle Hosting
5- cell Division
6- Protection and Buffering.

Mitochondria

Mitochondria Structure.

Mitochondria typically range from 0.5 to 1.0 micrometer in diameter.

Functions of Mitochondria

1- Energy conversion (ATP synthesis)
2- Calcium Homeostasis
3- Programmed cell Death.
4- Heat Production
5- Metabolic Regulation.
6- Independent Replication.

Q No-3.

A- How Global warming can be reversed.

Answer

Global warming is a phenomenon which is affecting the globe in very bad way. Disasters like flood, Heat waves, rains are reaction of global warming. The temperature of earth is increasing day by day which ultimately affecting the world.

How Global warming can be reversed.

There are various means

Day: Date:

which decrease the global warming some of those are given as under.

1- Planting Trees

Plantation of trees is one of the major solution to reverse global warming. A kenya Professor "Vengari mathai" said "We Can send a man to" mom, why Cannot we plant a tree

2- Avoid Smoke

To decrease the air dust and smoke, global warming could be reversed.

3- Decreasing Carbon Emission

Decreasing the casbon emission is ultimately leads to the less global warming.

4- D changing the living Standard

To change the living standard results into less global warming

Day: Date:

QNo-3 (B)

Ceramics.

Ceramics are inorganic Non-metallic materials made from clay or earthen elements, shaped, and hardened by high-temperature firing.

Properties of ceramics.

1- Hardness and wear Resistance
2- High Temperature Resistance
3- Chemical stability.
4- Electrical insulation
5- Thermal insulation
6- Brittleness
7- Non magnetic

Applications of ceramics

1- Construction (like bricks)
2- Kitchenware (pottery etc)
3- Electronics (insulate substances)
4- Biomedical (Dental implants etc)
5- Industrial (cutting tools, abrasives).

Day: Date:

Q No-3 (C)

Working of optic fibers

optical fibers work by transmitting data as pulses of light through thin strand of glass or plastic, relying on the principal of Total internal reflection (TIR), where light bounces repeatedly of the inner walls and stay within the core allowing high-speed, long distance data transfer with minimd signal loss.

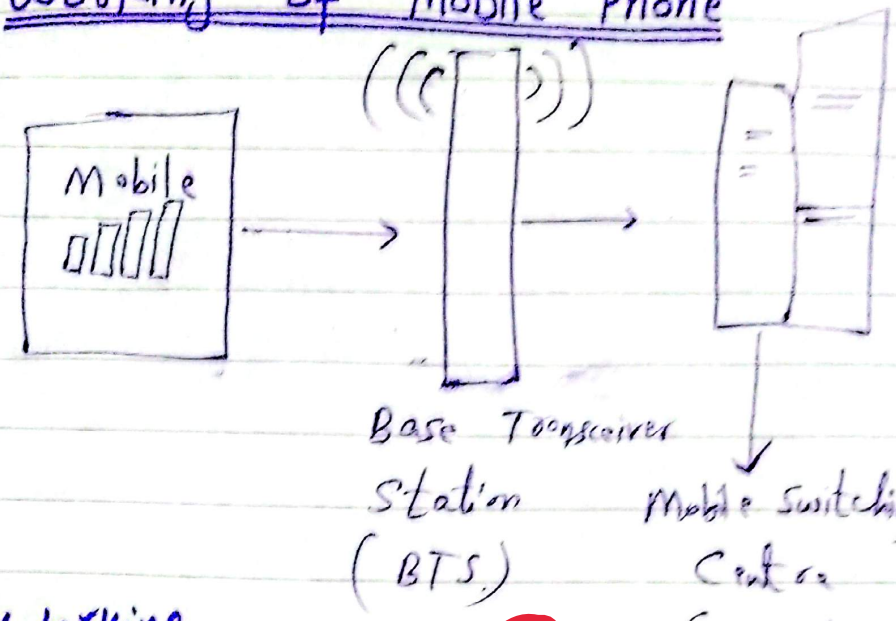
key Components

1- Core
2- cladding
3- Refractive index

How it Transmits Data

1- Signal conversion
2- Light injection
3- Bouncing
4- Reception.

Working of Mobile Phone



Working

Mobile Phone works by converting your voice/data into digital signals, which are then transmitted by radio waves to near by cell tower, forming a cellular network that relays these signals across towers, to the receiving phone, which reverses the process to play sound or display data all managed by the network mobile switching center.

Day: Date

Q No- 3 - D.

1- Food Additives

Food additives are substances added to food for technical purposes like preserving, freshness, enhancing flavor, improving texture or boosting color,

Examples.

1- Preservatives (Prevent spoilage by bacteria)
2- Colorings (Artificial dyes.)
3- Flavor Enhancer (Improve taste)
4- Sweeteners (Sugar, Sucralose)
5- Nutritional Additives (iodine in salt)

2- Food preservatives.

Food preservation is the process of treating food to slow spoilage, preventing microbial growth and oxidation to extend shelf life.

Examples:

1- Drying / Dehydrating

Day: Date:

2- Canning
3- Freezing
4- Salting / sugaring
5- Fermentation
6- Pickling
7- Chemical preservatives.

3- Food Adulteration

Food adulteration is the intentional practice of adding inferior, cheaper, or harmful substances to food to increase bulk, improve appearance or lower cost.

Examples.

1- Milk (adding water)
2- Spices (Chalk Powder for brightness)
3- Oil (Sunflower, Canola)
4- Grains/Pulses (Stones, Sand)
5- Honey (Diluting with Sugar)
6- Meat (cheaper meat)
7- Tea (adding used tea leaf)

Day: _____ Date: _____

Food contamination.

Food contamination is the presence of harmful or unwanted substances in food, making it unsafe to eat and potentially causing illness, allergies or injury.

Examples.

1- Eating undercooked chicken contaminated with bacteria or viruses.

2- Toxic substance from cleaning products, pesticides or industrial waste.

3- Foreign object introduced during processing or handling, ... finding piece of metal, plastic etc.

4- undeclared allergens (like nuts or gluten) in a product, considered contamination if not labled.

DATE: DAY:

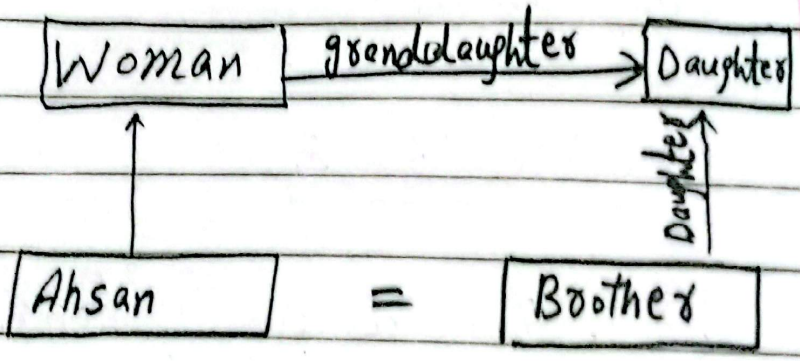
Q No-6

(A)

Pointing to a woman, Ahsan said, Her granddaughter is the only daughter of my brother. How is the woman related to Ahsan.

Solution

It could be easily understood with the help of diagram.



i- Ahsan pointed towards a woman and said her granddaughter is the only daughter of my brother.

DATE: _____ DAY: _____

ii- Granddaughter of Women is only daughter of Ahsan's brother mean Ahsan is uncle of grenddaughter.

iii- gf mean's Women is mother in-law of Ahsan's brother.

iv- Woman is mother-in-law of Ahsan's brother.

v- Ahsan's brother has only daughter.

QNo-6-B.

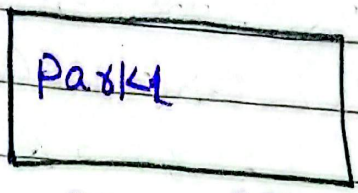
The ratio between length and breath of a rectangular par = 3:2

Time of one revolution around rectangular park = 8min

DATE: DAY:

Speed of cycle, that completed one revolution = 12 km/hr

We know that



$\Rightarrow$ ratio $= \frac{3}{2}$

$$S = vt$$

$$S = 12\ km/hr \times 8\ min$$

$$= \frac{12 \times 1000\ m}{60\ min} \times 8\ min$$

$$S = 200\ m$$

Here parameter = 200

Also

We know that

$$A = L \times W$$

$$L : B = 3 : 2$$

$$\Rightarrow \frac{L}{B} = \frac{3}{2}$$

DATE: DAY:

We know

Perimeter = L + L + W + W

Here L : W = 3 : 2

So $200 = 3x + 3x + 2x + 2x$

$200 = 3(20) + 3(20) + 2(20) + 2(20)$

$= 60 + 60 + 40 + 40$

$200 = 120 + 80$

$\Rightarrow 200 = 200.$

Here $L = 60\,m$ and $W = 40\,m$

Area $= L \times W$

$= 60m \times 40m$

$= (60 \times 40)\,m^2$

$= 2400\,m^2$

Hence the required area of the park is $2400\,m^2$

DATE: DAY:

Q No-6-C

In a two digit number
let the unit digit and
ten's digit as under.

Ten digit number = x
by given condition
unit digit number = $x+2$.

Sum of digits = $x+(x+2)$
By given condition

$(x+2)(x+(x+2)) = 144$

$\Rightarrow (x+2)(2x+2) = 144$

$\Rightarrow 2x^2+2x+4x+4 = 144$

$\Rightarrow 2x^2+6x+4 = 144$

$\Rightarrow 2x^2+6x-140 = 0$

$\Rightarrow x^2+3x-70 = 0$

$\Rightarrow x^2+10x-7x-70 = 0$

$\Rightarrow x(x+10)-7(x+10) = 0$

$\Rightarrow (x+10)(x-7) = 0$

$\Rightarrow x+10 = 0$ | $x-7 = 0$

$\Rightarrow \boxed{x=-10}$ | $\Rightarrow \boxed{x=7}$

DATE: DAY:

So there exists two Possibilities

ten digit number $= x = 7$

and $x = -10$

unit digit number $= x + 2$

$= 9$

and $= -10 + 2$

$= -8$

Hence the required solution.

QNo-6-D.

The L.C.M of two numbers = 48.

The ratio of The numbers = 2 : 3

let 1st number $= 2x$

" 2nd " $= 3x$

Now The LCM 48.

So by taking L.C.M

DATE: DAY:

x	2x	3x
2	2	3
3	1	3
	1	1

also L.C.M = x × 2 × 3

⇒ 48 = x × 2 × 3

⇒ 48 ÷ 6 = x

⇒ $\boxed{x = 8}$

by putting values we get

first number = 2 × 8
= 16

2nd number = 3 × 8
= 24.

By adding we get

Sum of two numbers = 16 + 24
= 40.

⇒ So the Sum of the two numbers is 40

DATE: DAY:

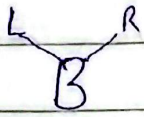
Q No - 8

(A) (Solution)

There are five different houses A, B, C, D and E

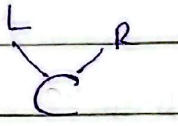
By the given condition.

i- A is right of B



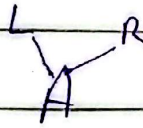
— (1)

ii- E is left of C



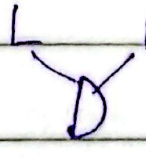
— (2)

and right of A



E C — (3)

iii- B is to the right of D



— (4)

From (1), (2), (3) and (4) we have

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By arranging according to the condition we have

BA — (1)

EC — (2)

AEC — (3)

DB — (4)

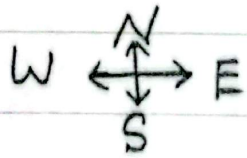
⇒ DBAEC

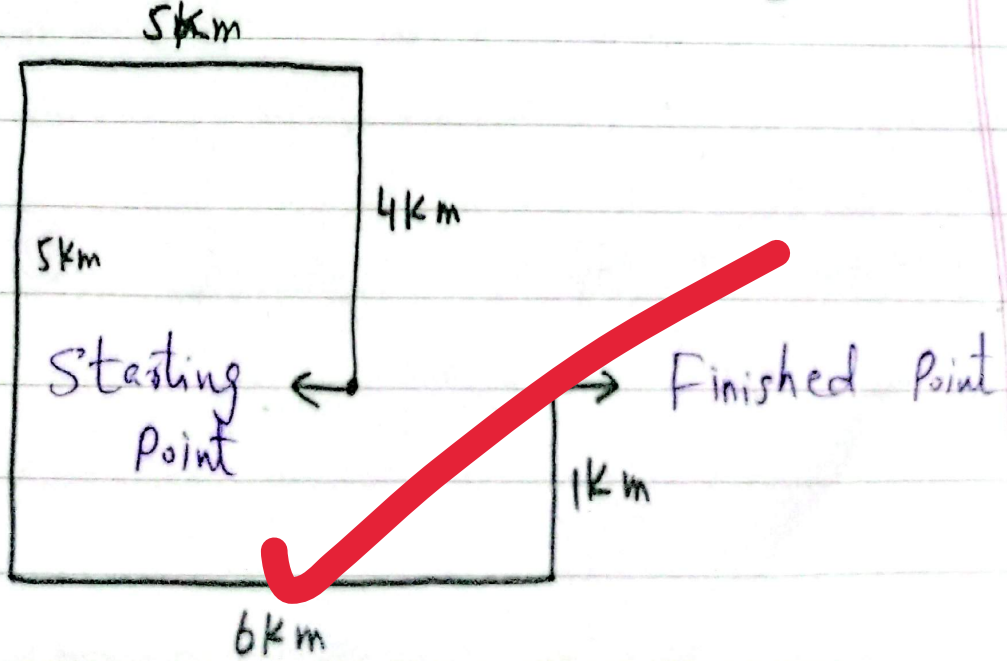
⇒ A is in the middle of all the houses

QNo-8

(B)

According to the given information imagine a figure





Day: Date:

keeping in mind the previous figure.

i- How many km are you from the place you started?

Answer.

I am standing 1 km away from the starting point.

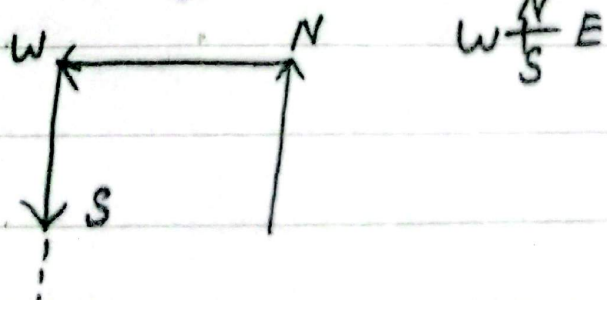
ii- In which direction will you be running while finishing.

Answer

The finishing direction is North.

iii- After taking the second turn, in which direction will you be running.

Answer After taking the second turn

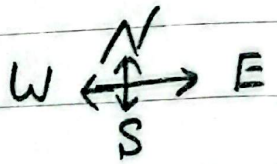


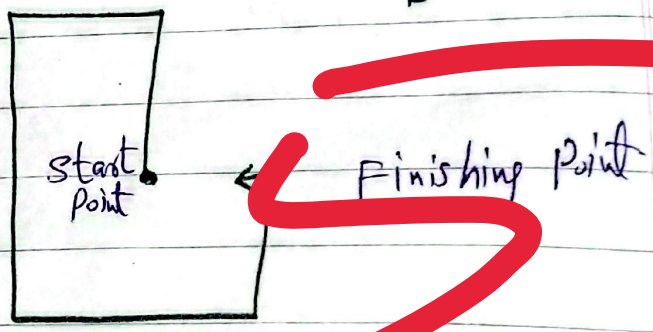
Day: Date:

After taking the second turn the direction will be in South.

iv- From the finishing point if you have to reach the point from where you started, in which direction will you have to run?

Answer





From the finishing point towards the starting point I have to run towards west direction. After running 1km I will reach at the starting point.

Day: Date:

Q No-8

(C) Find the odd men out in the following anagram.

(i) THRSI

The above anagram can be written as.

⇒ SHIRT

which is a wearing clothe.

(ii) AOTC

Above letters can be decoded as

⇒ COAT

which is also a wearing cloth.

(iii) EOUBSL

⇒ odd ---

Day: _____ Date: _____

(iv) KTRIS

Above letters can be decoded as

⇒ SKIRT

Which is a wearing cloth.

(v) RETAEWS

It can be decoded as

⇒ SWEATER

Again belongs to the wearing clothes family

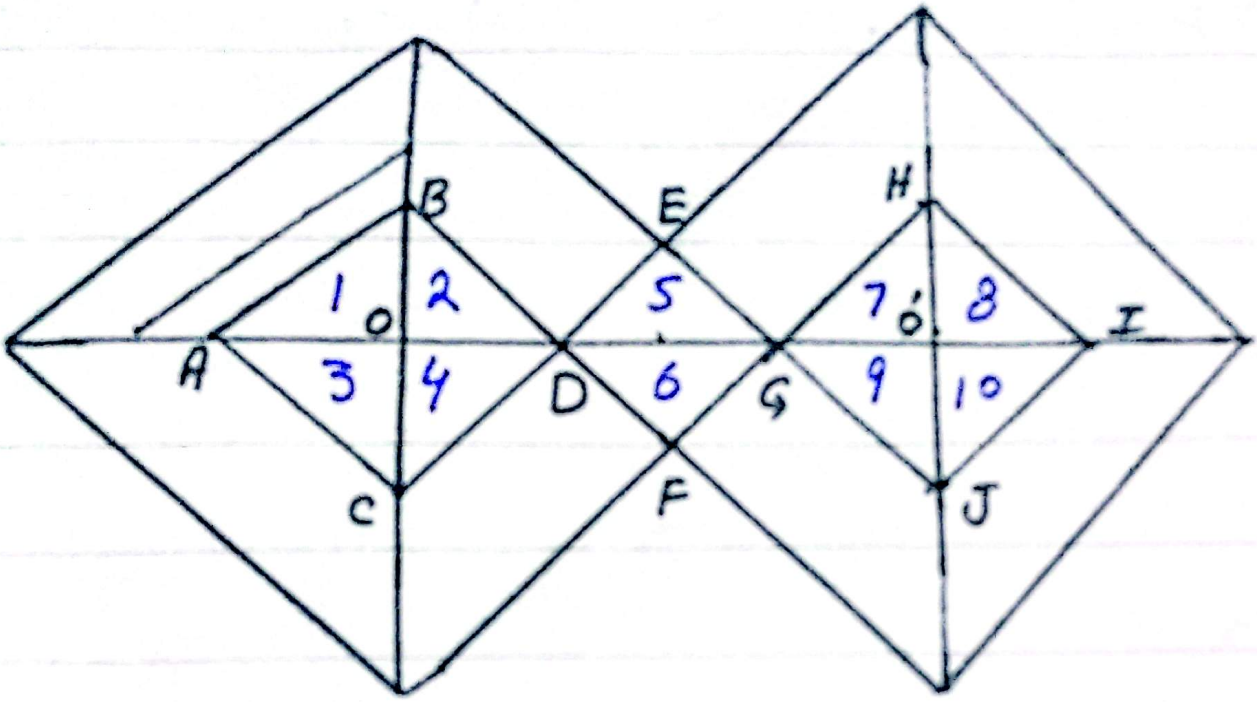
Hence, all the four anagrams belongs to the wearing family except EOUBSL.

So the odd man out in the anagram is

∴ EOUBSL ∴

Q No-8-(D)

Triangles in a given figure



Day: Date:

In the given figure there are 10 triangles.

Triangle 1 = $\triangle AOB$
" 2 = $\triangle BOD$
" 3 = $\triangle AOC$
" 4 = $\triangle COD$
" 5 = $\triangle EDG$
" 6 = $\triangle DFG$
" 7 = $\triangle HOG$
" 8 = $\triangle HOI$
" 9 = $\triangle GOJ$
" 10 = $\triangle IOJ$

→ There are "10" Possible triangles in a figure.