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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! 🌟

Ayesha Shabbir

Section No #02

Question No #08

(a)

"ROAD" is coded as "UQDG"
"LAKE" —?

R O A D
+2 +1 +2 +2
U Q D G

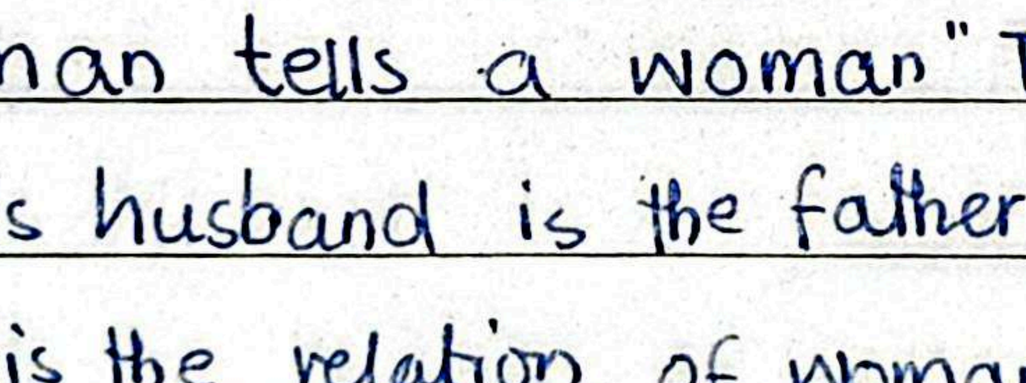
∴ addition

L A K E
+2 +1 +2 +2
O C N H

LAKE is coded as OCNH.

(b)

A man tells a woman "The son of my sister's husband is the father of your son". What is the relation of woman to man...



→ Woman is the wife of man's nephew.

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(c)

Missing numbers:

(i) 4, 12, 6, 18, 9, 27, 13.5

$\frac{12}{2}$ → 4×3 = 12 → 6 → $\frac{18}{2}$ → 6×3 = 18 → 9 → $\frac{27}{2}$ → 9×3 = 27

(ii) 1, 2, 6, 24, 120, 720

1×2 → 2×3 → 6×4 → 24×5 → 120×6

(d)

Five friend (P, Q, R, S, T)

- P is shorter than Q but taller than R
- S is shorter than T but taller than Q

(i)

T
S
Q
P
R

shortest person = R = 150 cm
tallest person = T = 180 cm

Third tallest person is Q.

Maximum possible range of their heights.

Range = Maximum − Minimum

= 180 cm − 150 cm

Range = 30 cm

(ii)

T
S
Q
P
R

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Question No#07

(a)

Survey of 100 people

People watch Cricket = 65

People watch Hockey = 40

20 watch neither = 100 - 20

People who watch = 80

Cricket = 65 , Hockey = 40

Difference = 65 - 40 = **25**

People who watch both hockey and Cricket are **25**

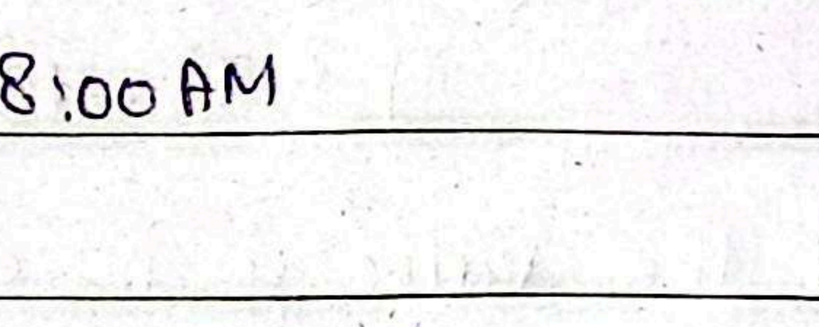
(c)

Train leaves City A at = 8:00 AM

Speed = 60km/hr

Train leaves City B = 40km/hr
toward A at speed

Distance b/w City A and B is = 400km



Speed diff = 60km/hr - 40km/hr

= 20 km/hr

Time = ??

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

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$$20\ km/hr = \frac{400\ km}{t}$$

$$t = \frac{400\ km}{20\ km/hr}$$

$$t = \frac{20}{1hr} = 20hr$$

Both trains leave from City A and B at 8:00 AM, they meet after 20 hours at **4:00AM**

Sum of present ages = 75

$$x + y = 75 \quad \text{---(1)}$$

Ten years ago.

father age $(y) = 4x - 10$

$$y = 4x - 10 \quad \text{---(2)}$$

Put the value y in equation (1)

$$x + y = 75$$

$$x + (4x - 10) = 75$$

$$x + 4x - 10 = 75$$

$$5x = 75 + 10$$

$$5x = 85$$

$$x = \frac{85}{5}$$

x = 17

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Putting the value of x in equ — (1)

$x + y = 75$

$17 + y = 75$

$y = 75 - 17$

$\boxed{y = 58}$

The current age of son is 17 years and father's age is 58 years.

Section - I

Question No # 04

(a)

Rocks :-

Rocks are known for their hard composition formed by break down of sediments by weathering events. Rocks are hardened compaction solid material with the time.

The study of rocks is called Petreology.

Types of Rocks :-

There are well-known three types of rocks differ in their composition and process of formation. The Igneous rocks, sedimentry and metamorphic rocks are the three types

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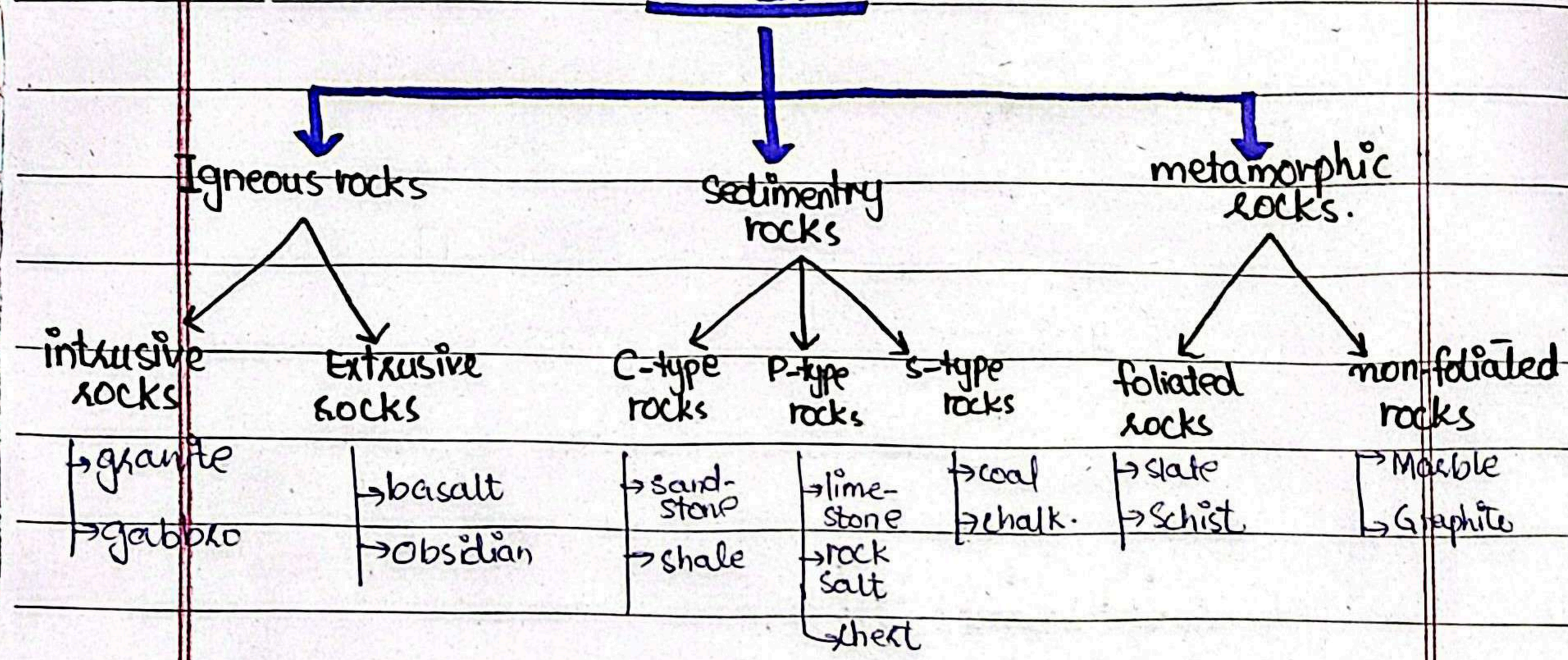
of rocks given below.



1) Igneous Rocks :-

Igneous rocks are formed by the overflow of lava towards the Earth surface by eruption. The solidified magma form the rocks known as intrusive rock and extrusive rock on the surface of Earth and under the Earth Surface respectively.

- **Intrusive rocks** formed by magma are granite and gabbro. inside the Earth.
- **Extrusive rocks** formed by the magma solidified outside on the Earth surface are basalt, obsidian, etc.

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2) Sedimentary rocks :-

Sedimentary rocks are formed by the break down of various sediments and rocks through weathering processes. These sediments are compacted and hardened to form sedimentary rocks. The sedimentary rocks are carboneous type, chemical types and organic types of rocks.

i) Carboneous type :-

Carboneous form of sedimentary rocks are formed by the sediments of carbon elements are sandstone, rockstone, and shale.

ii) Chemical types :-

Sedimentary rocks of chemical forms are made by the composition of different chemicals; carbon, phosphorous and salts. The examples of these rocks are limestone, rockstone, and chert etc.

iii) Organic sedimentary rocks :-

Organic sedimentary rocks are formed by the hardening of organic compounds and micro-organisms are coal and chalk.

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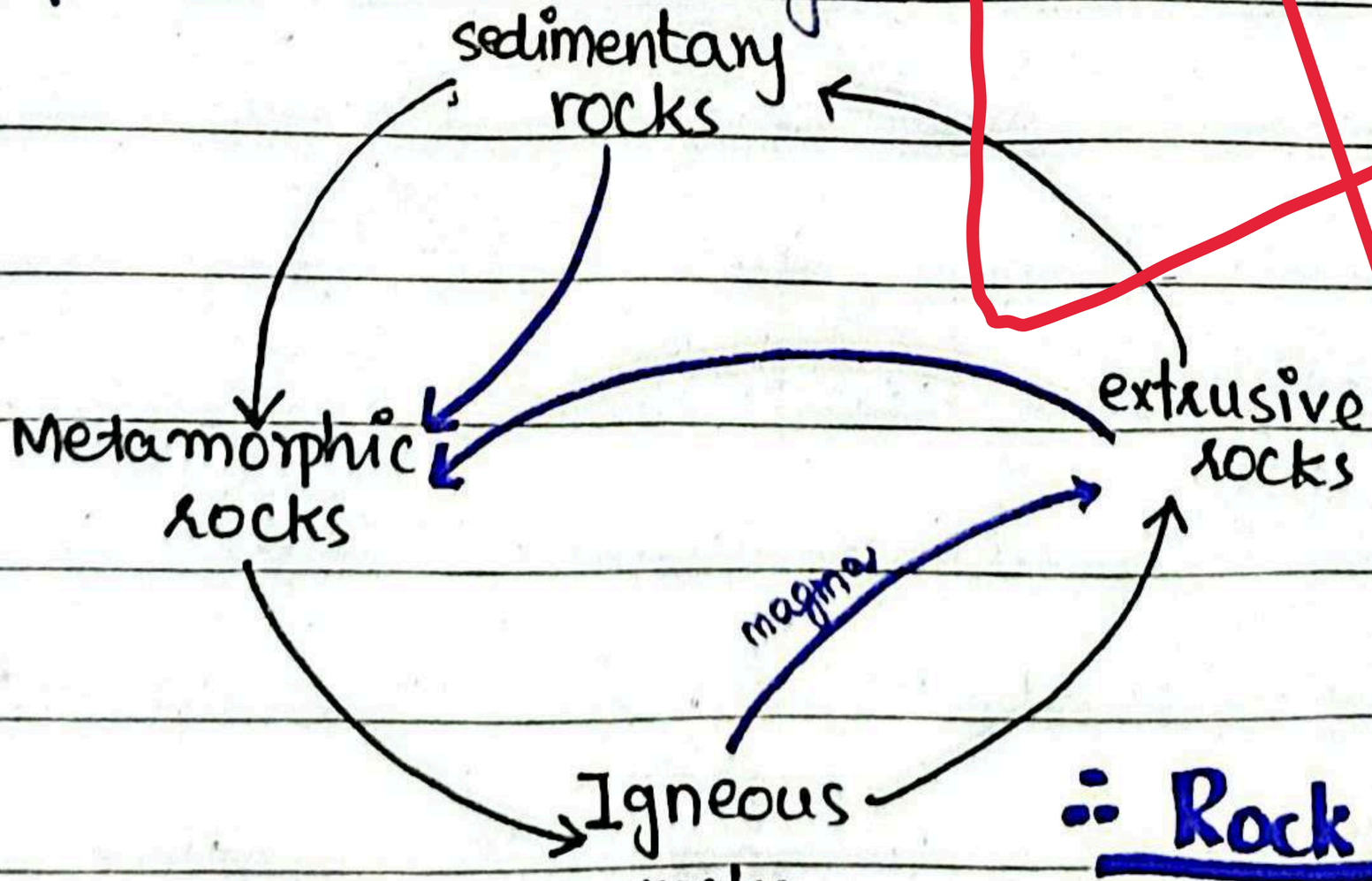
3) Metamorphic Rocks:-

Metamorphic rocks are formed by changing the forms of other rocks. As name shows "meta" mean change and "morphs" mean forms. makes the metamorphic rocks.

Metamorphic rocks are may be foliated and non-foliated types which are formed by doing changes in igneous and sedimentary rocks. The examples of metamorphic rocks are slate, schist, marble, Graphit, and Gysmp. etc.

Rocks Cycle

Rocks Cycle is the form of converting one type of rocks into the other form. It takes thousands of years to complete one rock cycle.



∴ Rock Cycle.

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(b)

Acid Rain :-

Acid Rain is the contaminated type of rain, the mixture of nitrous oxides and sulphuric oxides with harmful impacts on human life. Acid rain is formed by the results of chemical reaction of oxides with water.

$$NO_2 + H_2O \longrightarrow HNO_3 + H^+$$

$$SO_2 + H_2O \longrightarrow HSO_3 + H^+$$

The chemical reactions of water with nitroge oxide and sulphur oxide forms the nitric acid and sulphuric acid and hydrogen ions.

Types of Acid Rain

Dry Acid Rain

Dry Acid Rain is formed by the reactions of oxides with dey air to foum Acid air. This dry acid rain pollutes the air and water in atmosphere.

Wet Acid Rain

Wet Acid Rain is formed by the chemical reactions of oxides with water droplets in the atmosphere. These reactions form the wet Acid Rain and pollutes the vegetation and environments.

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Harmful effects of Acid Rain on Aquatic life and vegetation.

i) Effects on Aquatic life :-

Acid rain enriched with nitric oxides and sulphuric oxides enter into the oceans, rivers, and streams. The deteterious effects of oxides polluted the sea water and increase the amount of elements in the water. The harmful chemicals enters into the body of aquatic life by diffusion and reduce their survival chances.

ii) Effects on vegetation :-

The harmful chemicals present in acid rain fall on the vegetation and enter into plants through roots or leaves. The excessive nitric and sulphuric oxides destroy the cholorphyll cells and effect the photosynthesis of plants. The harmful effects of oxides turn the leaves colour yellow and died the cells of plants.

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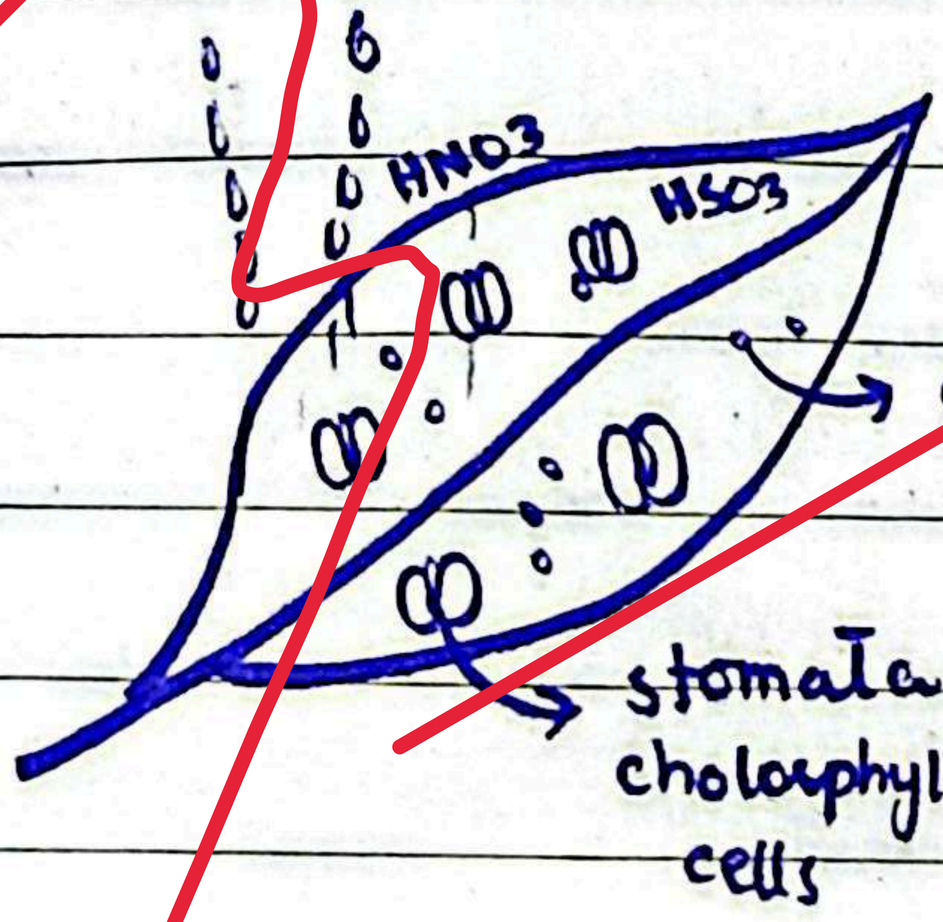

(d)

Solid Waste Management :-

Solid Waste Management is the concept related to reduce the detremental effects of solid waste. It deals with the proper management of waste products and reduce the disposal of waste around the urban areas.

R_3 technique :-

First, we have to follow the technique of R_3 (Reduce, Reuse, Recycle) for the solid waste management. There is a need to reduce the overuse of plastics, reuse the old things and then recycle the products rather than disposing outside.

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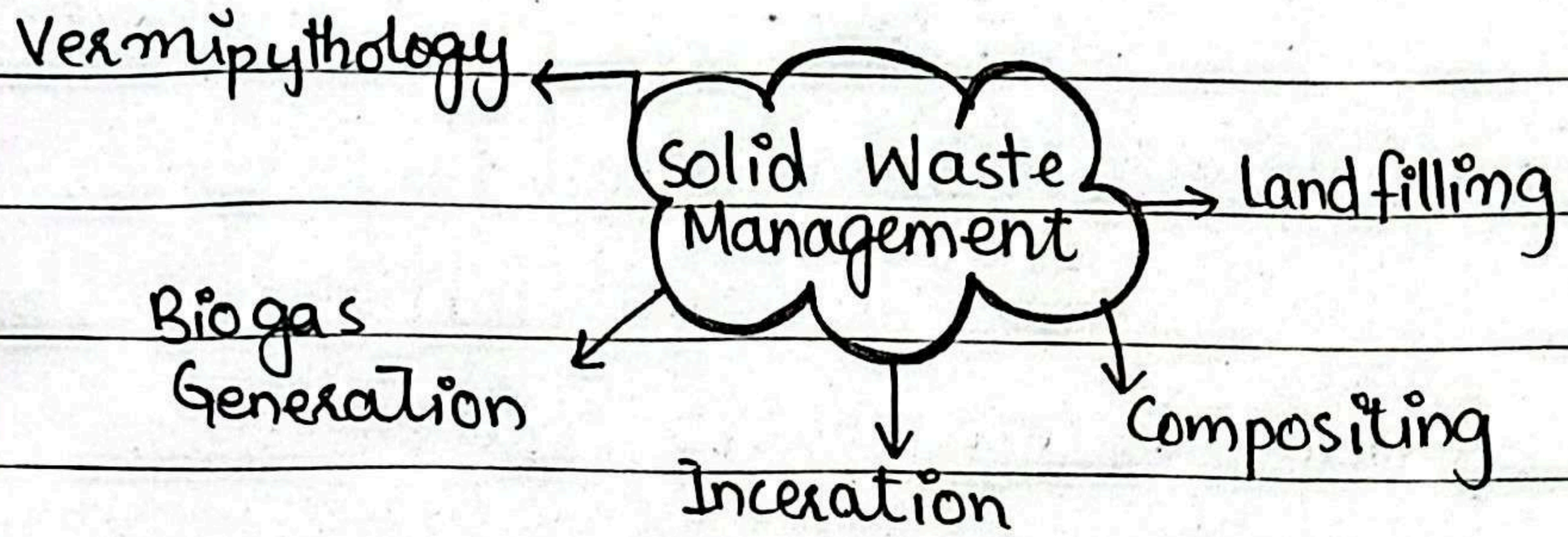
Steps / Ways of Solid waste Management :-

There are various techniques used to do the solid Waste management at high level. The well-known ways of solid waste management are given.



a) Land filling :-

Land filling is the process used for solid waste management, in which waste material is dumped under the Earth surface to reduce the contamination of soil and atmosphere.

b) Composiling :-

In this way of solid waste management, the micro-organisms are used to remove the solid waste products. The micro-organisms decompose the material and used it for their food.

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c) Incesation :-

Incesation is the process in which waste material is ignited with the help of fire to remove the long-term effects of solid waste material.

d) Biogas Genexation :-

Biogas generation is the process to produce biofuels by using biomass and other waste products. It can be done through fermentation and by using bacterias.

Environmental hazards by improper disposal of waste :-

The increasing population in urban areas are the reason for improper disposal of urban waste in surrounding areas. The improper disposal waste effects the environment by increasing temperature of atmosphere. The increased atmospheric temperature enhance the Global Warming effects, which results into extreme weather events such as heatwaves, floods, wildfire, and excessive rainfall.

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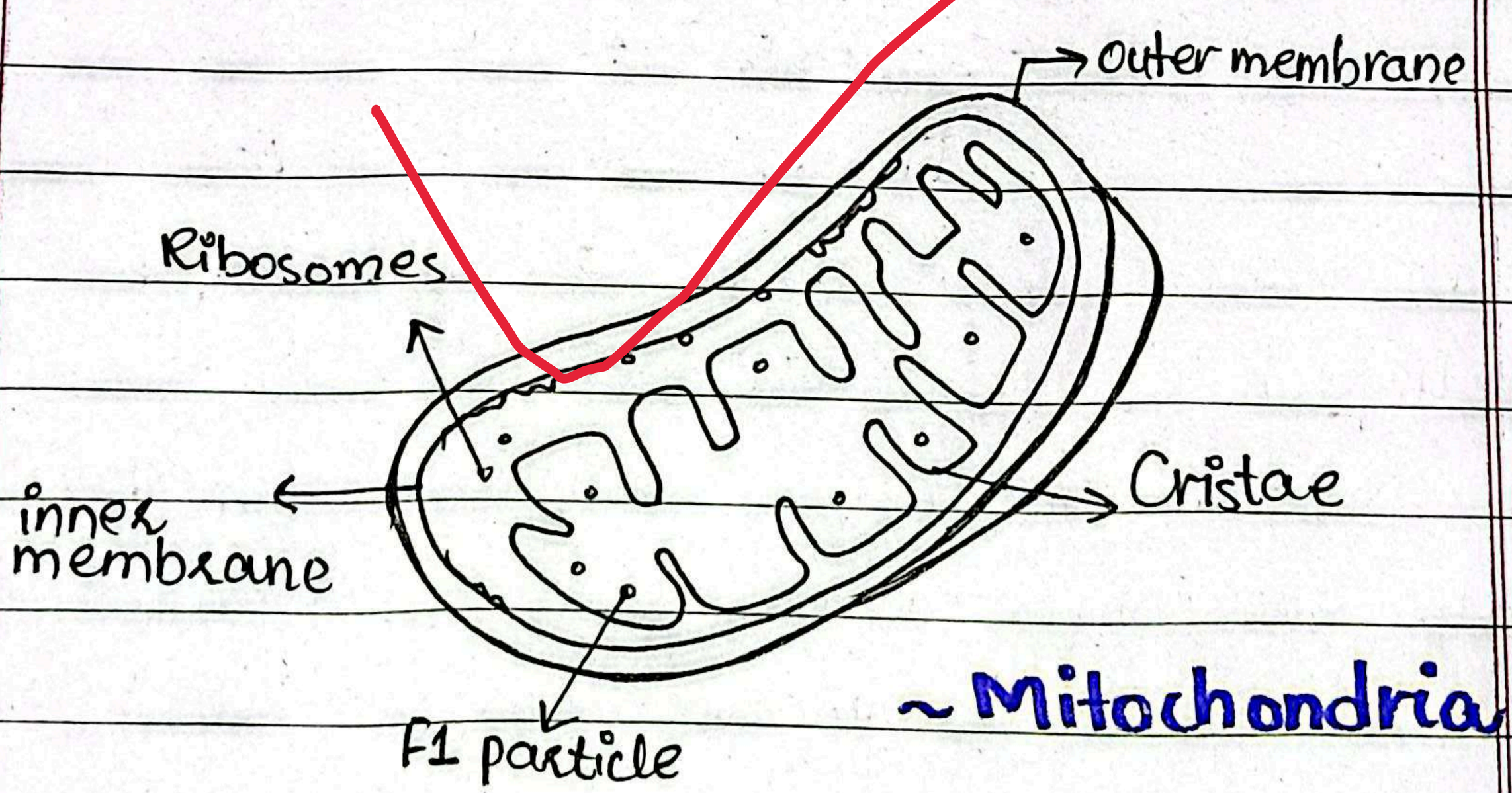
Question No#03

—ε(a)ɜ—

i) Structure and Function of Mitochondria :-

Mitochondria is the most prominent structure present in both plant and animal cell. Mitochrondria works for the "energy production" needed to cell, so it is called "powerhouse" of the cell.

Mitochondria is discovered by the **Albert Von koliker in 1857.**



~ Mitochondria

Function of Mitochondria:

The significant function of mitochondria is the production of

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energy by using phosphate ions during kreb's cycle. Mitochondria has its own ribosomes and can reproduce itself own. It produces energy in the form of **ATP**, used in different processes of cells.

$$AMP + P^{+} = ADP + e^{-}$$

$$ADP + P^{+} = ATP + e^{-}$$

Mitochondria as "Powerhouse" of Cell :-

Mitochondria is known as the power house of the cell due to the capacity to produce energy used in cell. The produced energy **ATP** is used in the muscle contraction, breakdown of elements, and in other processes in animal cells.

ii) Structure and Function of Ribosomes :-

Ribosomes are present in animal cell used in production of proteins. Ribosomes is the smooth

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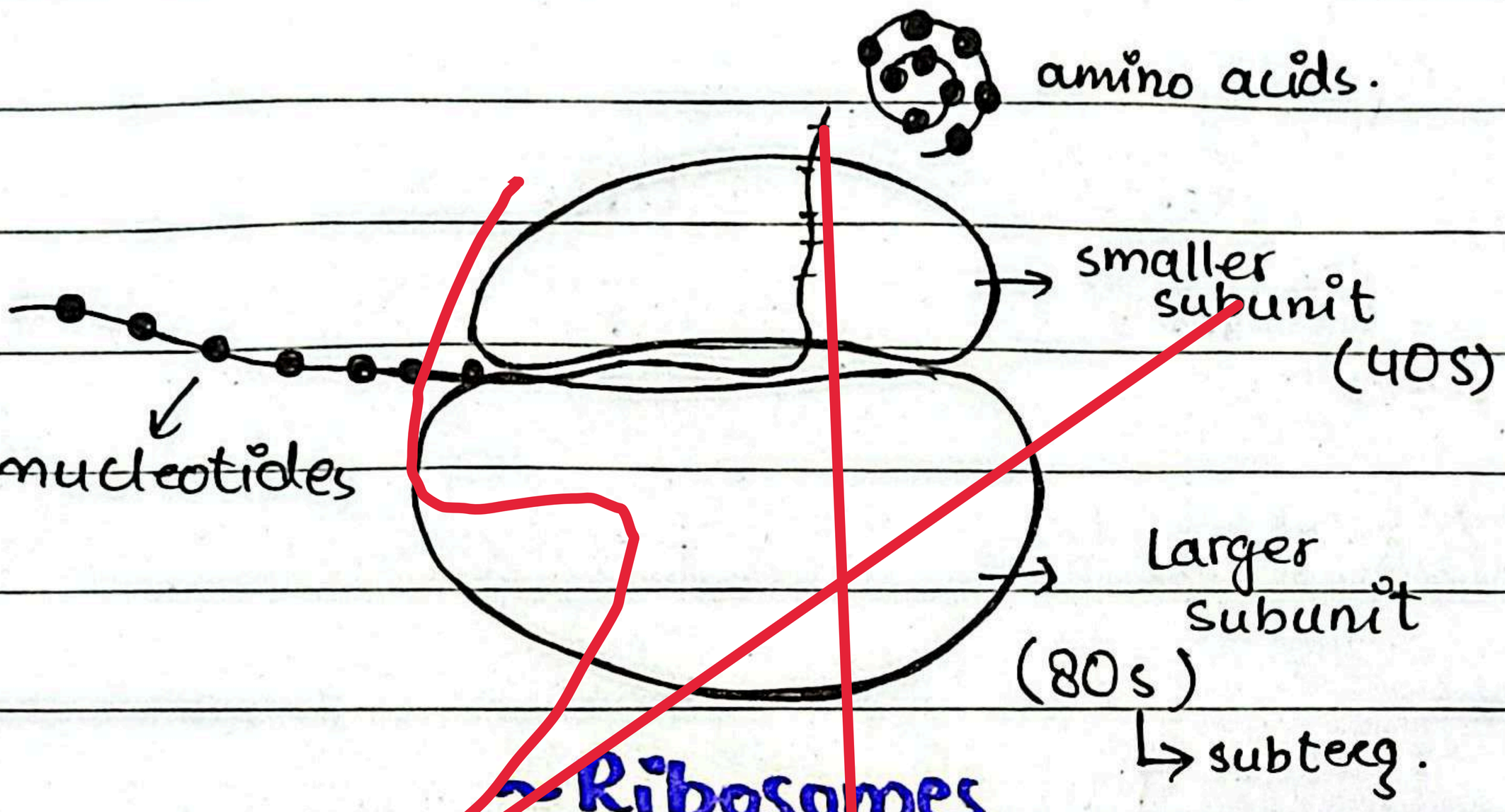
membraneous composed on two subunits vary in plants and animal cells.

The ribosomes are discovered by the **George E. Palade in 1955.**



Ribosomes

The ribosomes in animal cell are 80S "S" is unit's symbol "subterg".

Functions:

The function of ribosomes in the cell is the protein synthesis. Ribosomes use the nucleotide chain received from endoplasmic reticulum and access it to form amino acid chains. The amino acids are used in protein formation according to their codes. Ribosomes are also called **Protein factory of the cell.**