Q#2 (a)

Differentiate between Igneous and Metamorphic rock.

Rock:

"Rocks are defined as accumulation of minerals experienced high temperature and pressure called rocks."

→ Study of rocks is called petrology.

Types of Rocks:

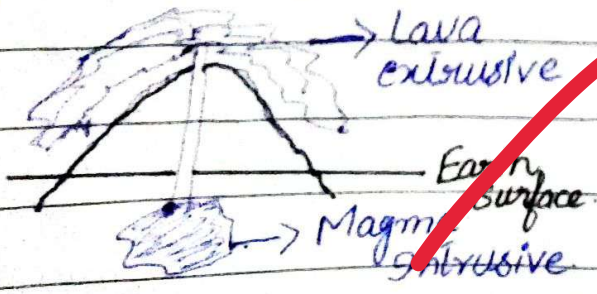
There are three types of rocks

- Igneous rocks
- Sedimentary rocks
- Metamorphic rocks

Igneous rock

- These are the type of rock formed cooling of magma and lava inside and outside earth
- It is exothermic process
- Igneous → "fire"
- They have two types intrusive and extrusive

e.g: Basalt, Granite



Metamorphic rock.

- These are the type of rock, when igneous and sedimentary rock experience high temperature and pressure change their shape.
- morph → "shape"
- They may be foliated and non-foliated.

e.g: Marble, Schist, Limestone

b: Explain phenomenon of Smog and give its Types.

Smog:

The term smog was coined by Henry Antoine in 1905 in his paper Fog and Smog. In 1952 London experienced smog for the first time due to industrialization. Thousand of people died in december, 1952.

"Smog is defined as a combination of fog and smoke. When dust particles react with sunlight they form smog" Smog cause respiratory and eye problems.

Types of Smog:

There are two main types of smog.

i- Industrial smog

ii- Photochemical smog

- **Industrial smog:**

This type of smog is also called black smog and sulfoid smog. It is formed in moist air when industrial smog or sulphur reacts with moist air.

- **Photochemical smog:**

This type of smog is also called grey smog. It is formed in dry and hot air. In this type dust particles react with sunlight and oxygen and formed ozone. This appear grey in colour.

c. Importance of risk assessment in DRM.

→ Risk assessment is a technique is used in disaster management to access the intensity and after effects of any disaster like earthquake, Tsunami etc

Importance:

- Risk assessment can reduce the after effects of any disaster.
- Risk assessment can analyze upcoming disaster and precautions issue by department NDMA
- Emergency implemented in hospitals before any disaster so casualities can be reduced.

d. Explain short and far sightedness.

→ The term short sightedness and far sightedness are disorder of eye.

Short sightedness:

→ Short sightedness is eye disorder also called myopia. In this disorder distant object are blury and near objects are clearly visible.

- In myopia light enter and made image before retina. Lens expand in myopia.

Treatment

- This can be treated by using glasses and contact lens.

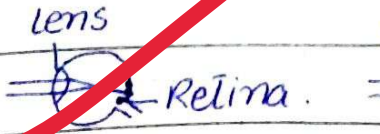
Far sightedness:

→ Far sightedness is an eye disorder called hypermelia. In this disorder near-by object seem blury and distant objects seems clear.

- In hypermelia light enter and image made other than retina. Lens become contract.

Treatment

- This can be treated by using glasses and contact lenses.



Myopia

Hypermelia.

Q # 3

a. What are proteins and carbohydrates? Give their digestion.

Carbohydrates:

Carbohydrates are macromolecules made up of carbon, hydrogen and oxygen. They gives 3.9 kcal. per gram. The hydrogen and oxygen ratio is 2:1. Its emperical formula is $Cm(H_2O)_n$

There are three types of carbohydrates

- Monosaccharides
- Oligosaccharides
- Polysaccharides

Monosaccharides:

These are the simplest sugar. They can't be hydrolysed. Glucose and Fructose are are example of monosaccharides.

Oligosaccharides:

They gives 2 - 9 units of monosaccharides on hydrolysis.

Polysaccharides:

They give many units of monosaccharides on hydrolysis.

Proteins:

Proteins are made up of carbon, hydrogen, oxygen and nitrogen. Amino acids are building blocks of proteins. Proteins produce insulin, enzymes hormones etc.

Amino acids are of two types:

i) Essential amino acids

ii) Non-essential amino acids

Essential amino acids:

These are the type of amino acids that cannot be synthesize outside body

Non-essential amino acids:

These are the type of amino acids that can be synthesize outside body.

Digestion of carbohydrates and Proteins:

Carbohydrates and proteins by enzymes by alpha amylase in body.

Make headings in the answers
Keep length of all questions equal
Understand the question carefully
Draw flow charts
Use scientific terminologies
Use scientific examples
Follow step by step method for maths problems
Work hard.

B. Explain Terms:

Temperature:

Temperature is measurement of degree of holness and coldness of atmosphere. Temperature can be measure in degrees, farnheit and celcius (scale)

Atmospheric pressure:

$$P = \frac{F}{A}$$

Atmospheric pressure is defined as force exerted per unit area.

Atmospheric pressure is measured by barometer.

Humidity:

Humidity is measurment of total moisture content in atmosphere.

C. Explain the ephemeron of Earthquake.

Earth quake:

"Earth quake is defined as any seismic wave that hit the earth surface cause vibration"

→ Magnitude of earth quake is measured on richter scale and intesity is measured on mercalli scale.

Epicenter:

Epicenter is a point where seismic wave hit the earth surface.

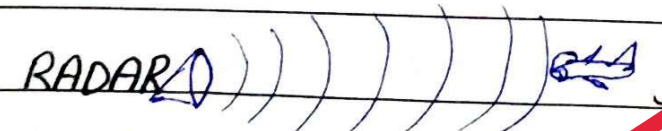
hypocenter:

Hypocenter is a point below the earth's surface where seismic wave originate.

D. Working of RADAR.

RADAR is a technique used to measure the distance, direction and location of distant objects.

In this technique electromegnetic waves are used that when disrupt by any object reflect back by hitting that object. we can calculate how much waves travel and come back.



- It is used to detect positions and directions of jets.
- It is also use in oceans.
- It is used for defense purpose.

SECTION B.

a) Average ..... numbers.

Data:

Average of 7 consecutive number = 20

Total number = 7

To find:

Largest of these number = ?

Solution:

Let number is $x, x+1, x+2, x+3, x+4, x+5, x+6$

$$\text{Average} = \frac{x+x+1+x+2+x+3+x+4+x+5+x+6}{7} = 20$$

$$7x = \frac{21}{7} = 20$$

$$x = \frac{21}{1} = 20$$

$$x = 21.$$

21 is the largest number.

B: A told B ..... C ?

A told B → C is his father's nephew.

D is A's cousin but no C's brother.

To find:

Relationship between D and C.

- D may be sister of C
- D may be cousin of C.

Find the missing numbers.

i. 4, 18, ____, 100, 180, 294, 448

ii. 1, 2, 10, 37, 101, ____

iii. 11, 17, 39, 85, ____

iv. 13, 24, 46, 90, 178 ____.

v. 4, 144, 400, 900, 1764.

Q#8:

d. If the base of the pyramid ... vol?

L = 7cm

W = 5cm

H = 10cm

Find volume = ?

$V = L \times W * h$

$V = 350\,cm$

2