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GSA 5/6/24

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Q:5:- (a) What is Artificial intelligence and is it possible for artificial to outsmart humans?

Ans: Artificial Intelligence:-

Artificial intelligence refers to development of computer system that can perform tasks typically requiring human intelligence. These tasks include, learning, analytical reasoning, problem solving and understanding natural language and making decisions.

Artificial intelligence is an advanced technique which ~~is~~ are now included in every platform on the internet. Human need just to put some questions or key informations. Artificial intelligence will give answer and solve the problem in a short interval of time. With the help of Artificial intelligence complicated tasks are become easier and time saving. A huge amount of informations are present in artificial intelligence. Many famous social media softwares like Facebook, whatsapp and instagram now run through artificial intelligence. smartphones and

Laptops are working on the Algorithm of Artificial intelligence. many applications like chatGPT is very helped in educational purposes, which work on the base of Artificial intelligence.

In modern ~~that~~ world where Artificial intelligence revolutionized the era of technology ~~or~~ where it has both positive and negative impacts on humans. ~~It~~ However it give ease to humans to solve their problems.

~~Nowadays~~ Today Artificial intelligence is trending in technology where it can solve many complex problems but it cannot be smarter than human being.

Artificial intelligence contains information which are given to them by humans. Artificial intelligence have only informations it has no reasoning skills like human brains and is not possible for Artificial intelligence in future to develop reasoning skill like humans. For example

I once asked from Artificial intelligence chatbot that who is the last prophet. chatbot answer me that there is a big difference in the last prophet. Artificial intelligence further answered me that in judaism musa (A.S) is the last prophet.

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and christianity tells that ESA (A.S) is the last prophet. sanatan tells that the Avtar will be the last prophet and Islam says that Hazrat Muhammad (SAW) is the last prophet. I then further asked Artificial intelligence that tell me what you say which one is right among these. Artificial intelligence replied that I am AI chatbot I don't have personal beliefs or opinions, nor do I endorse any particular religion or ideology. my purpose is just to provide informations. Hence it is proved that Artificial intelligence can never outsmart humans.

(B) Define rocks formation, rock cycle and different types of rocks.

Rocks Formation:

it is the geological process which involves the creation of and transformation of rocks through various mechanisms.

Rock formation occurs over million of years and involves the interaction of Earth's internal and external forces.

Rocks are formed from minerals which are solid inorganic substances with a definite chemical composition

and crystalline structure. The formation of rocks can occur through cooling and solidification of molten lava which cools and solidifies and form igneous rocks.

Sedimentary rocks are derived from erosion of pre-existing rocks and are cemented together forming sedimentary rocks.

metamorphic rocks are formed from existing rocks by heat and pressure of the earth's internal part forming metamorphic rocks without melting.

Rock cycle:

When the metamorphic rocks are formed from sedimentary rocks, these metamorphic rocks are subjected even to a greater heat there they can melt completely forming magma once again. This magma can eventually cool and solidify to form new igneous rocks thus completing the cycle and is called rock cycle.

Types of Rocks: There are three types of rocks.

1) Igneous Rocks:

They form cooling and solidification of molten lava. They are crystalline. For example, Granite and basalt etc.

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2) Sedimentary rocks

Sedimentary rocks are formed by sedimentation derived from pre-existing rocks.

Examples are: sandstone, limestone etc.

3) Metamorphic rocks

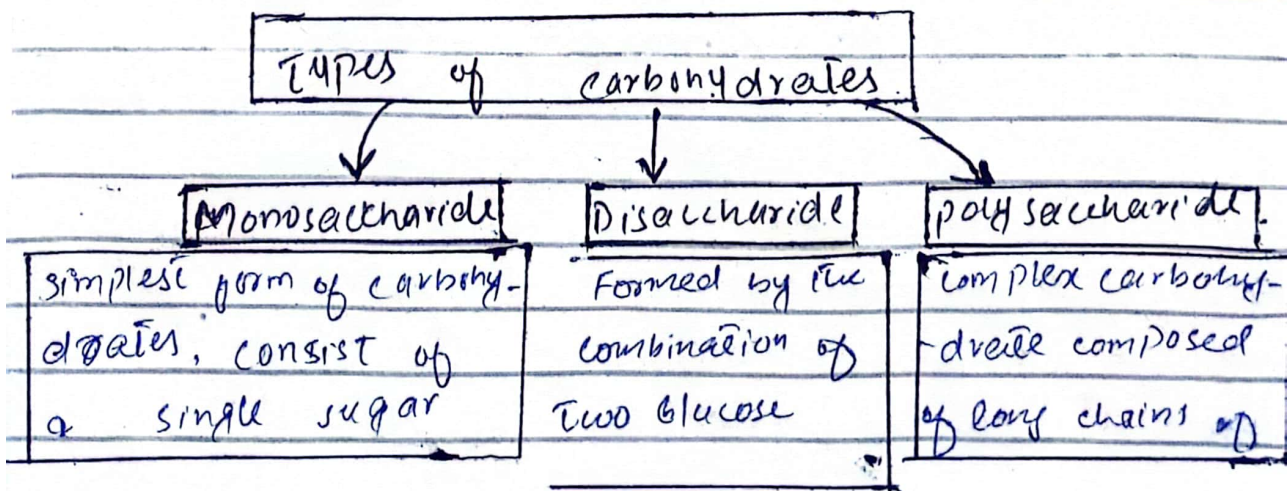
These rocks are formed from the alteration of pre-existing rocks like igneous, sedimentary and other metamorphic rocks.

For example: marble, schist.

(c) Explain carbohydrates and its types.

Carbohydrates

Carbohydrates are essential biomolecules. They are composed of carbon, hydrogen and oxygen in a ratio of 1:2:1. They are one of the primary source of energy for living organisms and plays a very important role in biological processes.



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Monosaccharide	Disaccharide	Polysaccharide
molecule. They are the basic building blocks of more complex carbohydrates. For example Glucose, fructose and Galactose.	molecule joined by glycosidic bond. e.g: sucrose, lactose	monosaccharide units linked together. They can be branch or unbranched. For example: starch, Glycogen and cellulose.

D:- what are the benefits of balanced diet.

Balanced diet:-

Balanced diet is a diet that composed of proper amount of carbohydrates, ~~glucose~~ proteins and vitamins that is necessary for human body to maintain biological process ~~are~~ is called a balanced diet.

Benefits of a Balanced diet &

Balanced diet is very beneficial for human body. Key benefits include.

- (1) improved nutrition intake to ensure body receives essential vitamins, mineral and nutrients.
- (2) Strengthens the immune system.
- (3) Helps to maintain a healthy weight.
- (4) provides sustainable energy throughout

The body.

- (5) Lower the risk of chronic diseases.
- (6) Supports a healthy digestive system.
- (7) Contributes to improved mood and cognitive functions.
- (8) Provides necessary nutrients like calcium and vitamin D for maintaining bones health.
- (9) Supplies essential nutrients which promote healthy skin and hair.
- (10) Contributes to a longer, and healthier life

Q: 2020

- (a) Global warming which is a global threat, is hitting the developing and least developed world the most. What measures should be taken to combat it in COP-29?

Global warming:

Global warming is long term condition in which the climate of the world changes usually from colder to hotter due to various reasons. It is the growing issue of climate to the world. Many conferences have been done to address the issue like COP 27 and COP28. But unfortunately the issue of Global warming remains unaffected on behalf

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of these conferences. The world must need to control Global warming and take serious measures if not the world will be badly hit by hotter climate changes soon. Here are some suggested measures to be discussed to control global warming in COP29.

① Strengthening climate budget

Developed countries should need to increase their commitments to climate budget providing a good financial support to developing countries for adaptation projects. Accessing to funds simply is the process for developing nations to access climate fund, ensuring timely and efficient disbursement.

② Promoting Renewable energy:

investment in clean energy and renewable energy sources such as solar, wind and hydroelectric power to reduce dependency on fossil fuels. Facilitation of the transfer of clean energy technologies to developing countries to support sustainable developments.

③ Building Adaptation: invest in Building adaptation that can withstand extremely weather events and rising sea level.

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suppose climate resilience agricultural practices to ensure food security and protect livelihood.

(4) Education and Training:

Provide education and training programs to aware people who take steps for climate action and environmental management.

offer technical assistance to help developing countries implement effective climate policies and projects.

(5) Sustainable development goal (SDGs) :-

Align climate action with SDGs to promote sustainable development while addressing climate change.

promote the adoption of economy practices to reduce wastes and enhanced resource efficiency.

(b) Describe the function of Arteries, veins and capillaries?

Arteries

Arteries are blood vessels which carry oxygenated blood away from the heart to the body tissues and organs. They maintain blood pressure.

Veins

Veins return deoxygenated blood from the body to heart. Veins have thinner walls than arteries. Blood pressure is low in veins.

Capillaries

Smallest blood vessels work as the sites of gaseous exchange, nutrient and mineral between blood and body tissues. Because of their thin walls they also connect arterioles.

(1) Why do atoms form chemical bonds? Explain structure of water.

Chemical bond: form by atoms.

Chemical bond is a force of attraction between chemical molecules. Atoms of different elements combine ~~to form~~ ^{through} a chemical bond to form a new substance. Different types of chemical bond are ionic bond, covalent bond and hydrogen bond.

Ionic bond form between ionic compounds this is weak bond and can be break easily. Covalent bond is formed by the share pair of electrons between two elements it may be single, double or triple covalent bond. Hydrogen bond is formed between molecules of liquids hydrogen bond is stronger than ionic bond and weaker than covalent bond.

Structure of water:

Water is composed of two hydrogen molecules and one oxygen molecules paired with each other with hydrogen bond. The ~~molecules~~ atoms of water are far away from each other lower than gases. Water molecule contain weak forces therefore it can be break easily. Water molecules has low intermolecular forces therefore they attain the shape of the container in which it is poured.

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(d) what are conductors, semiconductors, metals, plastics and ceramics? Give example of each.

Conductors:

These are those molecules which carry and conduct heat easily means that they will be good conductors of heat.

Examples are copper and Aluminium.

Semiconductors:

Semiconductors are those substances which can conduct heat partially. They work between conductors and insulators.

Examples are: silicon.

Metals: A material which shows a lustrous appearance and conduct heat and electricity easily is called metal. They are ductile and malleable.

For example: Gold and silver.

Plastics: Plastics are a wide range of synthetic and semi synthetic material that use polymers as a main ingredient. Their plasticity make it possible for plastic to be molded or pressed into solid objects of various forms.

For example: plastic ~~to~~ bags, plastic tables etc
PVC, HDPE, PPR.

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Ceramics:- A ceramic is a hard, brittle, heat resistant and corrosion resistant material made from clay and then heated at a high temperature.

For example: stoneware and brick.

PART II → SECTION II

Q: 7

Q) Define I.Q. what are the factors which affect I.Q.

Ans: I.Q:- intelligent quotient

intelligence quotient is a total score derived from a set of standardized tests or sub tests to assess human intelligence. in short it is a measure of person's reasoning ability.

Factors affecting I.Q :-

Some key factors that affect I.Q are.

- ① Genetic.
- ② Environmental
- ③ Education
- ④ Nutrition
- ⑤ Stress
- ⑥ Cultural factors
- ⑦ Health and well being.
- ⑧ Parental influence.

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(b) what is circumference of a circle of radius 4 cm?

Sol:-

$$\text{Circumference (C)} = 2\pi r$$

$$\text{Given radius} = 4 \text{ cm. so}$$

$$C = 2\pi \times 4$$

$$C = 8\pi$$

$$C = 8 \times 3.14$$

$$C = 25.14$$

So circumference of a circle with radius of 4 cm is 25.14.

(c) Age of 5 students is 20, 22, 21, 21, 23.
Find mean, median, mode, range.

$$\text{Mean} = \frac{20 + 22 + 21 + 21 + 23}{5} = \frac{107}{5}$$

$$\text{Mean} = 21.4$$

$$\text{Median} = 21$$

$$\text{Mode} = 21$$

$$\text{Range} = 23 - 20 = 3$$

(d) Tahir started a business with a capital of 15000 Rs.
After 5 months Umar also joined him with an investment of 30,000. At the start of 9th month, Usman joined them by investing Rs 45,000. At the end of the year

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They earned a profit of 406,000. Find the share of each one.

share formula is

$$\text{Share} = \frac{\text{Given Ratio}}{\text{Parts}}$$

So

Tahir investment for 1 year = 15000.

Umar investment = 12 - 5 = 7 months

$$30000 \times \frac{7}{12} = 17,500$$

Usman investment

$$12 - 8 = 4 \text{ months}$$

$$15000 \times \frac{4}{12} = 5,000$$

Now calculate total investment.

$$15000 + 17500 + 5000 = 37,500.$$

Now

$$\text{Tahir's share} = \frac{15000}{37500} \times 406,000 = 12,889.$$

$$\text{Umar's share} = \frac{17500}{37500} \times 406,000 = 15,099$$

$$\text{Usman's share} = \frac{5000}{37500} \times 406,000 = 5,412.$$

Q. NO: 8

(a) if BROTHER is written as QDGSNQA. Find
How sister will be coded.

BROTHER
QDGSNQA

SISTER
HUKRKD

(b) identify the missing number.

1, 2, 6, 21.

1, 2, 6, 21, ...

$$1 \times 1 = 1$$

(1) ~~First~~ term.

$$1 + 1 = 2$$

(2) ~~Adding 1 to~~ the

$$2 \times 2 = 4$$

$$4 + 2 = 6$$

$$6 \times 3 = 18$$

$$18 + 3 = 21$$

$$21 \times 4 = 84$$

$$84 + 4 = 88$$

First of All 1 is multiplied with 1 and 1 is added to the result which become 2. The result multiplied by 2 equals 4. 2 added with the result which is 6 and multiplied by 3 equals to 18. 3 added to the result become 21 and multiplied with 4 becomes 84 added 4 the result is 88

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(c) Naseer walked from A to B in the east 10 feet. Then he turned to the right and walked 3 feet. Again he turned to the right and walked 14 feet. How far is he from A.?

A → starting point

B → after walking 10 feet

C → after walking 3 ft east and turning right.

D → final position after walking 14 ft north from C point.
Find distance between A and D.

BC = 10 feet (Horizontal distance)

CD = 3 feet + 14 feet (vertical distance)

⇒ 17 feet.

By Pythagorean Theorem

$$AD = \sqrt{BC^2 + CD^2}$$

$$AD = \sqrt{10^2 + 17^2}$$

$$AD = \sqrt{100 + 289}$$

$$AD = \sqrt{389}$$

$$AD = 19.72 \text{ feet}$$

