FARIA SAEED
CSS-2024

Day: **Saturday**                               Date: **03-02-2024**
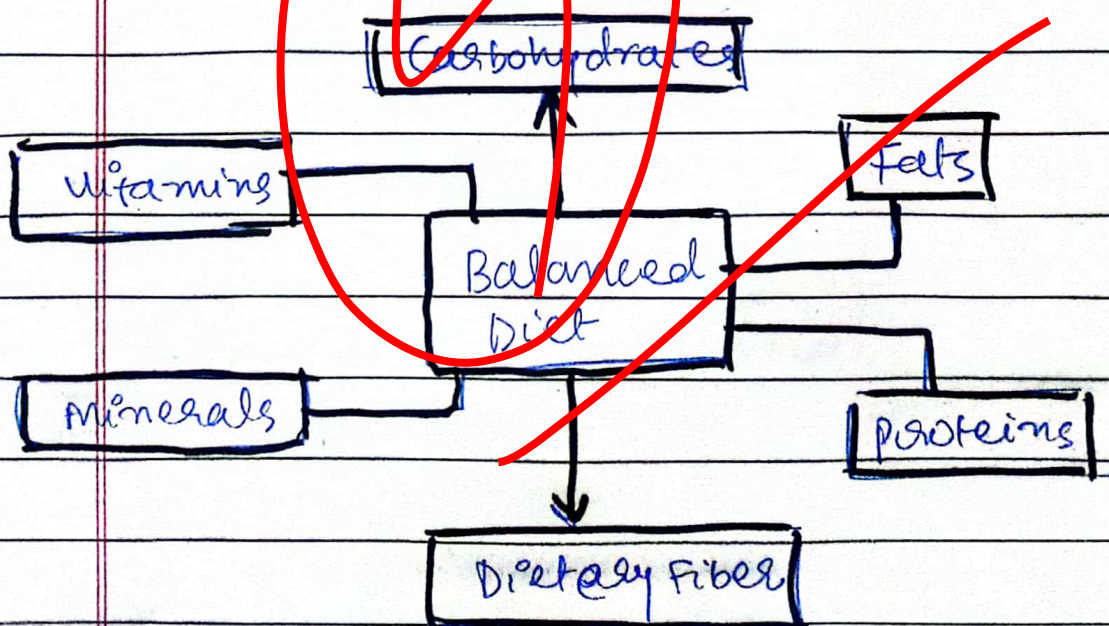
(PART-II)

(SECTION-I)

Q.NO3.

(b) Balanced Diet:

(I) Introduction

A Balanced diet defined as a diet with complete nutrient values including carbohydrates, mineral, proteins, vitamins, salts, and dietary fibers.

II Components of Balanced Diet

## III Calories Composition

A Balanced diet provide human beings with required calories to work appropriately.

Carbohydrates $\Rightarrow$ 60-70% Calories

Proteins $\Rightarrow$ 10-20pc Calories

Fats $\Rightarrow$ 20-25% Calories

## (IV) Functions of the components of the Balanced Diet:

1. **Carbohydrates:** Carbohydrates are the instant source of energy for the body.

2. **Proteins:** Proteins play an important role in muscle growth and functioning.

3. **Fats:** Fats and oils are the important components of food. It provide fuel for the proper functioning of the body.

4. **Minerals:** These are the inorganic elements, essential for the normal functioning of the body.

5. **Vitamins:** Vitamins are essential for the processing of bodily reactions.

6. **Dietery Fiber:** It is the indigestable part of the food essential for the functioning of digestive system.

(V) **Significence of Balanced Diet:**

(a) It is essential for the proper functioning of human body

(b) Its absence can lead of deficiency.

(c) It can render human vulnerable to disease and illness.

**(d) RAM and ROM**

| RAM | ROM |
|---|---|
| (i) It is known as "Random Access memory". | It is known as "Read Only Memory" |
| (ii) It has volatile energy. It can store data only when power is supplied. | It has non-volatile energy. It can store data permamentely without supply of power |
| (iii) It can do both functions; read and write | It can only do one function that is to read. |
| (iv) It has a high functioning speed. | It has a lower functioning speed as compared to RAM. |

| | |
|---|---|
| (V) It has higher potential capacity. | It has lower potential capacity as compared to RAM. |
| (Vi) It can store data for current usage | It can store data for the permanent usage. |
| (Vii) It can be directly accessed by the CPU. | It cannot be directly accessed by the CPU. The data has to be copied on RAM first for CPU to access it. |
| (Viii) It is costlier. | It is inexpensive as compared to RAM. |

**(C)**

## (I) Introduction:

Artificial Intelligence is defined as a computer systems, capable of performing tasks that required human intelligence. machine learning is the subset of the Artificial Intelligence (AI).

## (II) What is Machine Learning?

(i) It is capable of learning from data.

(ii) It used alogasrthims.

(iii) It can improved its performance over the time with the use of Alogasrthims.

## (III) How ML has revolutionized the world?

Machine learning has revolutionized the world

in almost all aspects of life. It has bought advanced changes from the field of medicine to the field of finance.

(a) ML has improved the efficiency of performing tasks by enabling automation of repetitive and time consuming tasks.

(b) ML algorithms can analyze vast amount of data to make predictions in finance, marketing and healthcare.

(c) ML contributes to medical diagnosis, drug discovery, and treatment plans.

(d) ML is used to monitor climate change, predict natural disasters and manage resources.

(e) It has revolutionized the way of learning with the help of the invention of Chat GPT.

(f) It helped in predicting stock prices and optimize trading strategies.

(IV) Conclusion:

ML is the subset of the AI that has revolutionized the world with the advancement in the every field of life.

(a)

(I) Introduction:

Global warming is the defining challenge of this century. The rising temperature is posing threat to the survival of human beings.

## (II) Global Warming:

Global warming is defined as the constant increase in temperature due to uncontrolled human activities. The industrial revolution and unchecked emissions of the carbon are responsible for the increasing temperature worldwide.

## (III) Asian Development Bank Report:

According to Asian Development Bank 2023 Report, the 2023 year was the hottest year on the planet. It caused inconsistent weather patterns in the various parts of the world. The most vulnerable among them are the countries of the developing world.

## (IV) COP-28:

It is known as the conference of parties. This year COP 28 was took placed in Dubai between the 30th November to the 13th December, 2023.

(V) <u>Major Hurdles of the Developing World in Tackling the Impacts of Global Warming:</u>

There are many hurdles of the developing world that are responsible for the inability to tackle global warming.

(i) The lack of financial resources is one of the major hurdle.

(ii) Climate change is causing havoc in developing countries and impacting their economies. For instance, Pakistan lost $30bn due to floods in 2022.

(iii) The poor management is another reason behind the global warming.

(iv) The inability of the western countries to cut their reliance on carbon emissions.

(v) The inability to predict the disasters.

(vi) The lack of the technological advancement to tackle climate issues.

**(VI) Way Forward:**

The way forward to manage global warming is to devise a comprehensive strategy.

(1) Loss and damage fund that the developed world repair the damage caused by the climate in developing world.

(ii) The complete elimination of reliance on carbon emissions

(iii) Helping developing countries to develop technological advancement.

## QNO5 :

(a)

### (I) Introduction

Food preservation is a method to preserve food to maintain its nutrient value and to save it from getting spoiled.

### (II) Causes of food Spoilage :

There are a number of reasons responsible for the food spoilage

(a) The chemical reactions in the food.

(b) The loss of oxygen due to antioxidants.

(iii) The changing physical conditions of the food such as changing structure.

(iv) The environment conditions including, light and temperature.

(v) the activity of bacteria, fungi and molds.

(vi) The gain and loss of moisture in the food.

## (III) Methods of food Preservation

There are a number of methods that are employed to preserve the food.

⇒ **Heating**

(i) One of the method is heating. The molds grow on food from temperature ranging between $8°C$ to $39°C$. By heating food at $121°C$ the growth of microorganisms can be controlled.

## ⇒ Freezing

(ii) Another method of preserving food is freezing. The ideal temperature for the growth of molds is $8°C - 39°C$. By freezing food at $°OF$, the food can be preserved.

## ⇒ Drying

(iii) The presence of water in food provides an ideal medium for the growth of microorganism. By drying water from food it can be preserved.

## ⇒ Acid

(iv) Acid is used for preserving food. It denature the proteins of the bacteria that are necessary for the bacterial activity on food.

⇒ **Sugar and Salt:**

(V) Sugar and salts are used to preserve the food. The sugar syrup are coated on the fruits and vegetables. In the same way brine is used to preserve the meat. It stops the movement of water inside and outside of food.

⇒ **Smoke**

(vi) It is an efficient way to preserve meat and fish. It has formaldehyde that dry out the meat to prevent the chemical reactions.

(IV) **Conclusion:**

The preservation of food is a modern method that stores food for the longer duration without compromising nutrient value and food integrity.

(C) Distinguish Solar and Lunar Eclipses.

| Solar Eclipse | Lunar Eclipse |
|---|---|
| (i) It took place when moon while revolving comes between sun and the earth. | (i) It took place when earth while revolving comes between moon and sun. |
| (ii) It occurred less frequently. | (ii) It occurred most frequently. |
| (iii) It is visible from the specific geographic locations. | (iii) It is visible from all the geographic locations. |
| (iv) It is of three types total, partial, and annular. | (iv) It is of three types total, partial and penumbral |

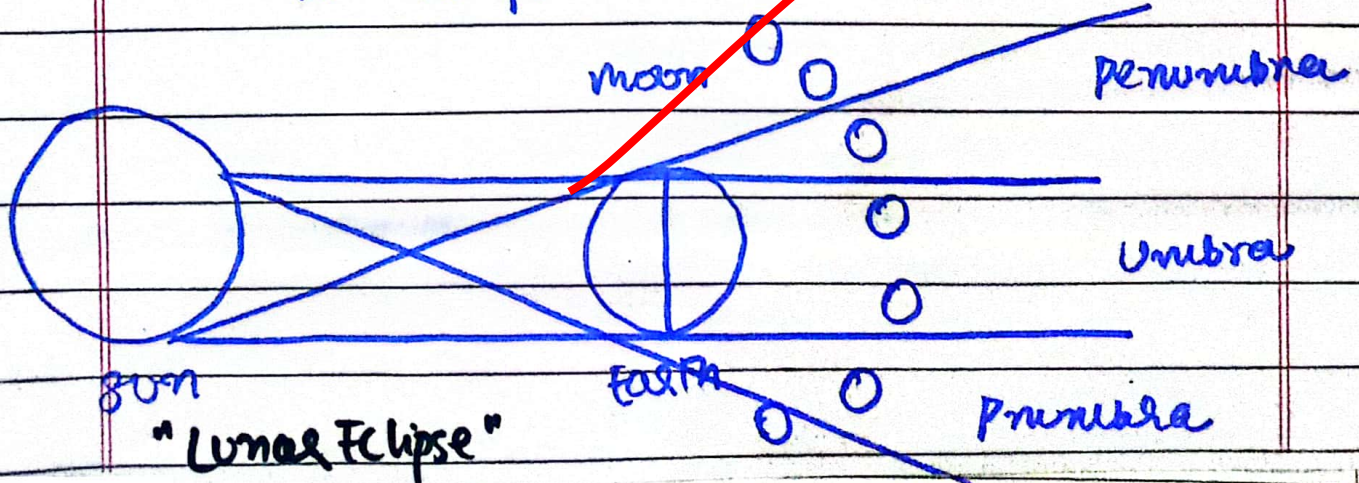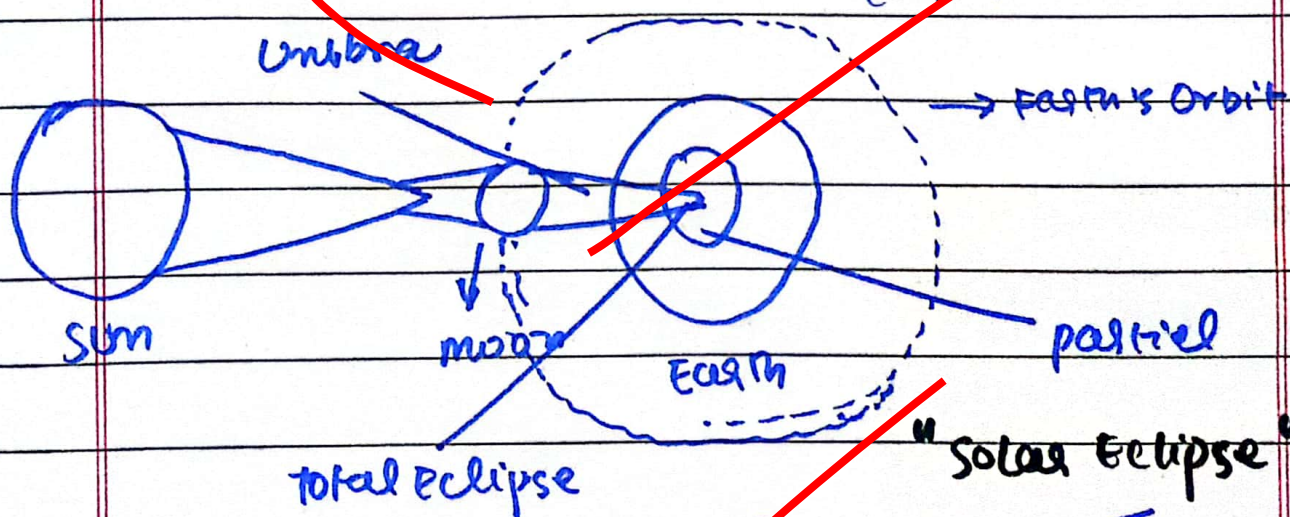| | |
|---|---|
| (v) Its visibility area is specific only that location where moon's shadow falls. | It is visible from every where on the night time. |
| (vi) It has shorter duration. | It has longer duration |
| (vii) Sun appeared to be covered by the Moon. | Moon appears to be covered by shaded by the Earth |

Umbra

Earth's Orbit

Sun

moon

Earth

partiel

total eclipse

"Solar Eclipse"

moon

penumbra

Sun

Earth

umbra

"Lunar Eclipse"

Prumbra

## (d) Ionic Bond in Table Salt:

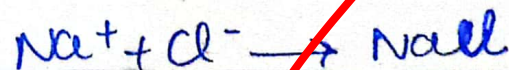| | |
|---|---|
| Bond Type | Ionic Bond |
| Element Involved | Sodium ($Na^+$) and Chlorine ($Cl^-$) |
| Electron Transfer | Sodium loss one electron to chlorine forming $Na^+$ and $Cl^-$ ions |
| Electrostatic force | The positively charged $Na^+$ attracts negatively charged $Cl^-$ forming strong electrostatic force. |
| Chemical Reaction | $Na^+ + Cl^- \rightarrow NaCl$ |

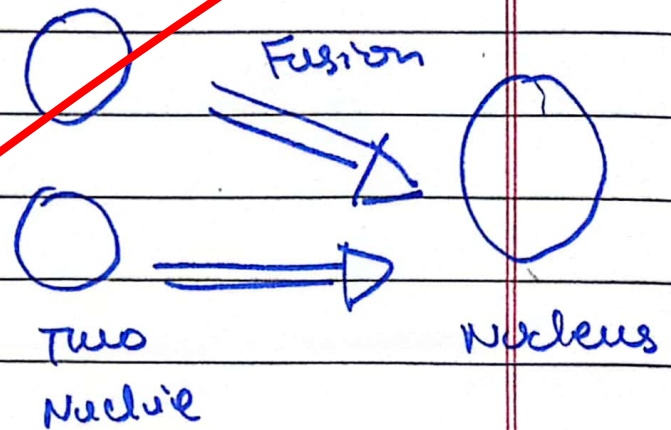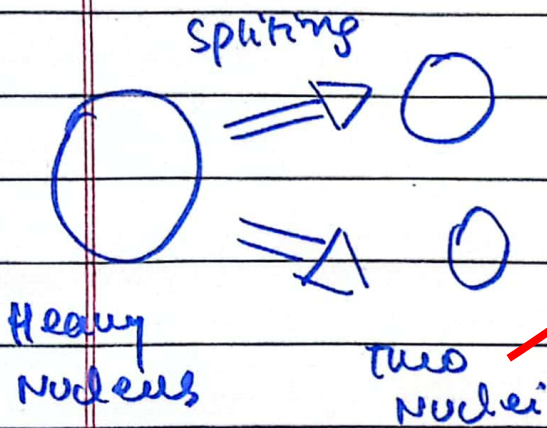| Nuclear Fission | Nuclear Fusion |
|---|---|
| (i) Splits heavy nucleus into smaller nuclei releasing energy | Combines light nuclei to form heavy nucleus |
| (ii) Chain reaction in certain conditions | Requires high temperature and pressure to initiate reaction |
| (iii) It uses $U235$ and $P239$ as fuel | It uses isotopes of hydrogen. |
| (iv) It releases large amount of energy | It releases extremely high energy |
| (v) It is naturally occuring | It is found in stars and sun |
| (vi) It produces radioactive waste | It generates less waste |

| | |
|---|---|
| vii) It is commonly used in radio-active power plants | It is not harnessed yet artificially. |
| viii) It operates in lower temperature | It required extremely high temperature. |

Spliting

Heavy Nucleus → Two Nuclei

Fusion

Two Nuclie → Nucleus

## QN08:   Jumbled words

(i) THRSI      ~~EIERS~~ SHIRT
(ii) GNG RFA      DANGER
(iii) SCHAMOT      Moschat
(iv) ONLODO      ~~London~~
(v) HIODALY      Holiday