General Science Mock 1
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11.5/20

QUESTION# 1

PART# A

use BOLD & underline it

1- Universe:- UNIVERSE :

The universe refers to the eternity of existence, including all space time, matter, energy, galaxies, stars, planets and other celestial objects. It originated approximately 13.8 billion years ago through Big Bang.

2- Galaxies :- GALAXY

A galaxy is a vast collection of stars, gas, dust and dark matter held together by gravity. Galaxies contain billions or even trillions of stars.

For example, milky way is the galaxy that contains our solar system, including the Sun & Earth

3- Light Year :-

A light year is a unit of

DATE: __/__/____

distance, not time. It is the distance that light travels through vacuum in one year, approximately 9.46 trillion kilometers.

2.5/05

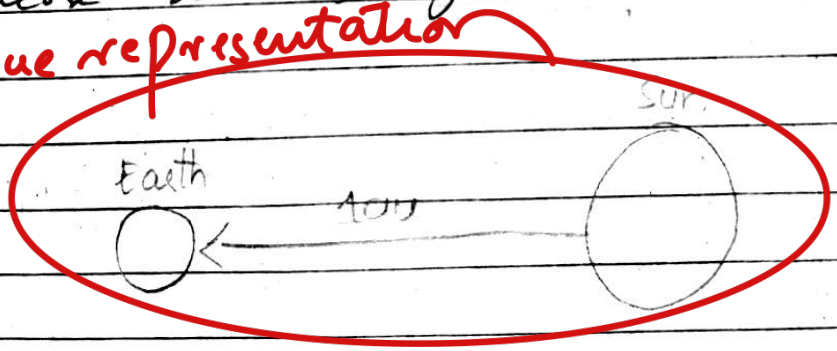
Interrelationship..... ?

The Universe is the largest of the three concepts and contains all galaxies and celestial objects.

A Galaxy is one of many gravitational bound systems within the universe

Light Year measures the distance between two objects within the universe such as Galaxies and Stars.

vague representation



Part B

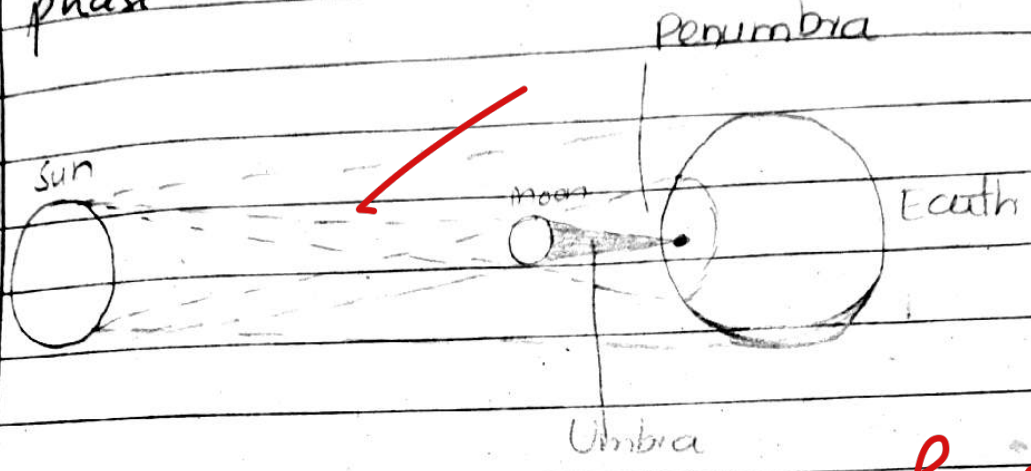
Difference Between Solar Eclipse And Lunar Eclipse

Solar Eclipse:-

Solar eclipse occurs when the

DATE: __/__/____

moon passes between the Sun and Earth, blocking some or all of the sun's light from reaching a portion of earth. It occur during the new moon phase.



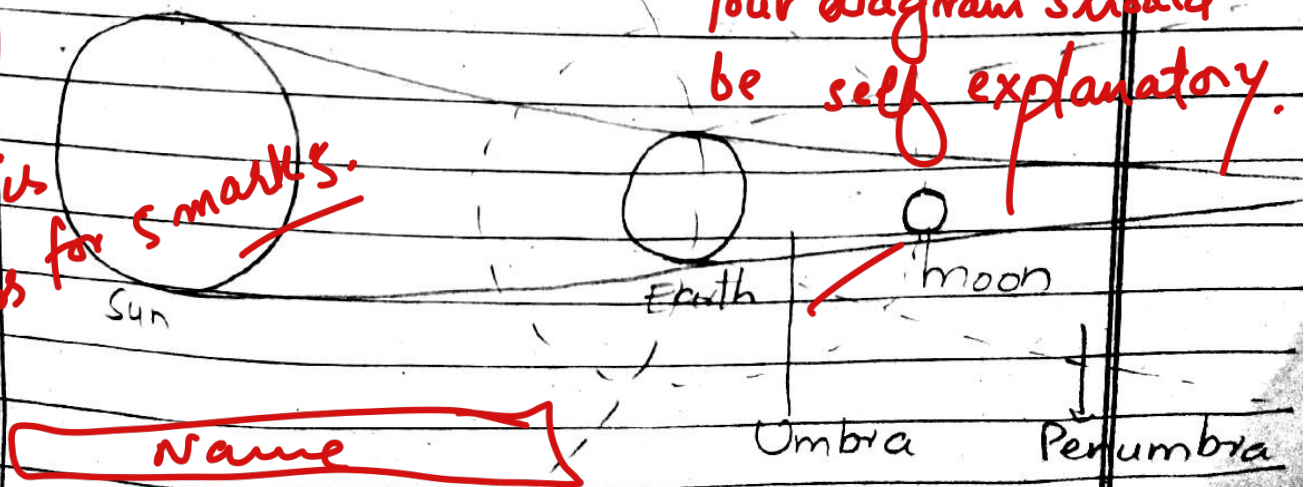
Sun → Moon - Earth (Name the figure)

Lunar Eclipse

A lunar Eclipse occurs when Earth passes between the sun & moon, causing Earth's shadow to fall on moon. It occurs during the full moon phase.

2.5/5 Content is very less for 5 marks.

Your diagram should be self explanatory.



Name

Sun → Earth - moon.

Part C:

Ans The earth exhibits two major types of motion: rotation on its axis and revolution around the sun. Both influence the distribution of solar energy and contribute to the Earth's climatic System.

1. Rotation of the Earth:

Rotation is the spinning of the Earth on its imaginary axis, which extends from the North pole to the South pole. The Earth rotates from west to east and completes one rotation relative to the sun in approximately 24 hours

2- Revolution of the Earth:

Revolution is the movement of Earth around the Sun along an elliptical orbit. One revolution takes approximately 365.25 days forming the basis of the year. Earth's axis is tilted approximately 23.5° relative to the perpendicular to its orbital plane.

3- Significance In Climate Formation:

DATE: __/__/____

Seasonal changes

1- As earth revolve around the sun, each hemisphere receives varying amount of sunlight Throughout the year.

2- **Day and Night:-**
Rotation creates the daily cycle of sunlight & darkness, producing regular variations in surface temperature.

3- **Coriolis effect:-**
Earth's rotation deflects moving air and ocean currents to the right in the Northern hemisphere and to the left in the Southern hemisphere. This shapes global wind belts & ocean circulation.

4- **Monsoon And Seasonal Circulation:**
Seasonal changes in solar heating influence land-sea temperature contrasts, pressure systems, and the seasonal migration of the intertropical convergence zone (ITCZ) contributing to monsoon patterns.

Add Proper diagram for rotation & revolution

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DATE: __/__/____

Part 4

Ans The Weather Variables:-

Definition

Weather variables are measurable atmospheric elements used to describe the physical condition of the atmosphere at a particular place and time. These long term averages and patterns help define the climate of a region.

1- Temperature :-

Temperature measure the degree of hotness and coldness of the atmosphere. It is primarily influenced by incoming solar radiation, latitude, land-sea distribution & atmospheric composition.

1.1 Role in Global Climate Patterns.

(a) Global Heat distribution
(b) Pressure and Wind Systems
(c) Ocean Circulation
(d) Climate zones
(e) Climate Change

DATE: __/__/____

2. Percipitation:-

Percipitation refers to water falling from the atmosphere to Earth's surface in the form of rain, snow, sleet or hail. It occurs when atmospheric moisture condenses and becomes heavy enough to fall.

2.1 Role in Global Climate Pattern:-

(a) Distribution of Rainfall:-

The equitorial region receives abundant rainfall because warm, moist air rises and produces frequent convential percipitation.

3.5/5

(b) Formation of Deserts:-

Subtropical high-pressure belts around 20°-35° latitude experience descending, relatively dry air, contributing to desert formation.

(c) Monsoon Systems:-

Seasonal changes in pressure and winds cause variations in percipitation across S. Asia, Africa and other monsoon regions.