

Q. No. 3

- a. Global warming is a wild beast and we all are poking at it which sticks, justify.
- b. What is the origin of universe, how age of universe can be calculated?
- c. Write a short note on semi-conductors.
- ✓ d. What is eclipse? Distinguish between solar and lunar eclipse.

Clim

Q. No. 1

a. Answer

INTRODUCTION:

Industrial and Agriculture revolution have contributed tremendously towards socio-economic, political and cultural development of the world. However, due to these revolutions, the intensity and frequency of human interference within the environment have increased, which triggered global warming. According to IPCC, an average and gradual increase in the temperature of Earth's atmosphere is called global warming.

How global warming is akin to a wild beast:

The raising temperature of the Earth surface has grave repercussions. It leads the world towards bio-diversity loss, glacier melting, raise in sea level, wild forest burning etc. An increase in 3.5°C could

extinguish 70% of living things.
Thus, global warming is akin to
a wild beast.

How Human Poking the Wild
Beast (Global Warming) with sticks:

Being aware of the grave con-
sequences of global warming,
the carbon gases have still been
emitting. For example, the USA is
emitting 45%, of Europe 40%
and China 30% ~~respectively~~
releasing carbon gases respectively.
Consequently, the enhanced green
house gases has posed an
existential threat to human,
by becoming ~~a~~ akin to a
wild beast.

Conclusion:

The raising temperature of the
Earth has potential to extinguish
living thing. However, instead of the
grave consequences of it, humans have

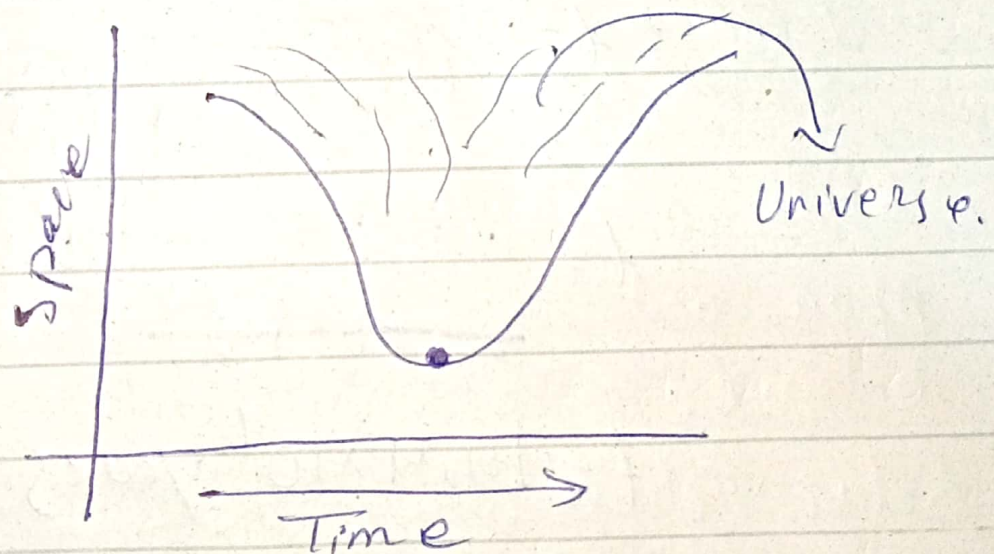
been discharging the green house gases to the atmosphere.



b. Answer:

Universe: the origin

The origin of universe is ^{the} Big Bang. Initially, there was a extremely dense particle with a extremely concentrated energy. When this ~~particle~~ burst, the universe came into existence and it still spreading



Age of Universe

Since the universe came to exist, it ~~move~~ ^{expand} with a certain velocity. Let that velocity is ' V ', and the V is directly proportional to distance from origin.

So

$$v = d \cdot t$$

$$v = H_0 d \quad \text{--- I}$$

$H_0 =$ Hubble's constant t

$$H_0 = 2.2 \times 10^{-18} \text{ s}^{-1}$$

we know that

$$v = d/t$$

$$v = d/t \quad \text{--- II}$$

① \Rightarrow

$$H_0 d = \frac{d}{t}$$

$$t = \frac{1}{H_0} = \frac{1}{2.2 \times 10^{-18} \text{ (s}^{-1}\text{)}}$$

$$t = \frac{1}{2.2 \times 10^6 \times 10^{13}} = 4.06 \times 10^{17} \text{ seconds}$$

$$t = 14.4 \times 10^9 \text{ years}$$

\rightarrow

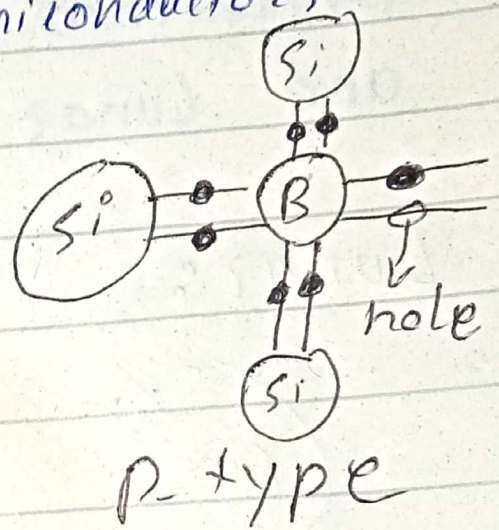
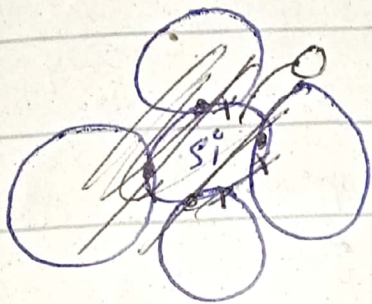
c. Answer:

Semi-conductors:

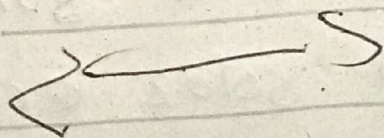
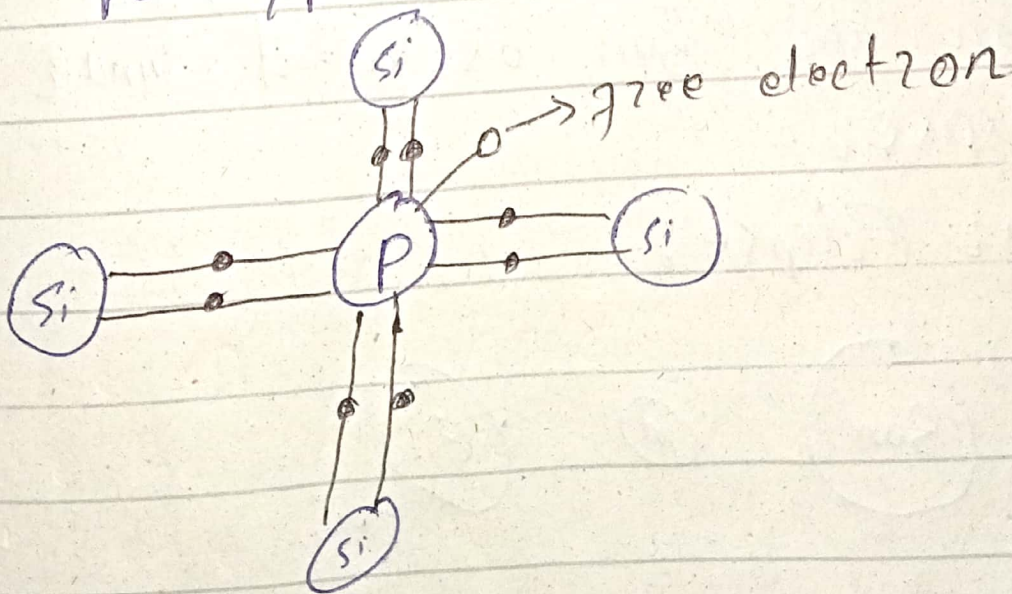
Semi-conductors are materials which conductivity is in between conductors and insulators. Common

Types include silicon and germanium, and they are crucial in electronic devices. There are two main types.

Intrinsic (pure) semiconductors and extrinsic (doped) semiconductors. Doping introduces impurities to alter conductivity, creating N-type or P-type semiconductors.



N-type

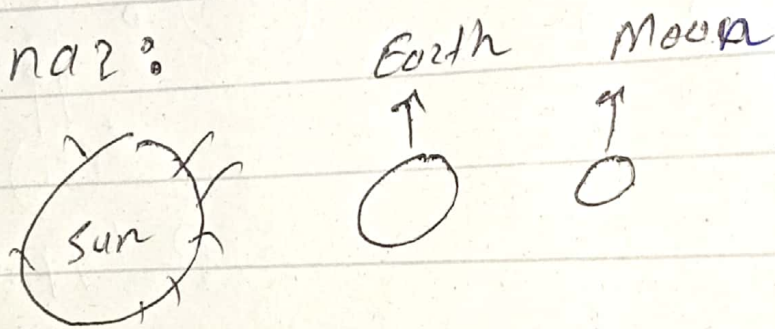


C. Answer:

Eclipse: The ^{obscuring} ~~obscurerity~~ of one astronomical object by another astronomical object is called eclipse.

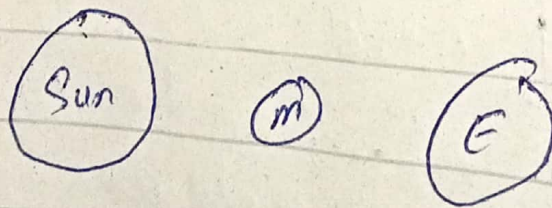
Difference between solar and lunar eclipse

Lunar:



When earth is in between the moon and sun is called lunar eclipse.

Solar Eclipse:



When moon is between sun and the Earth is called solar eclipse.

