

Briefly describe the most popular and accepted theory about the Origin of the Universe? (5)

The most popular and accepted theory about the origin of the universe is "the Big Bang Theory". This theory was given by Georges Lemaitre in 1927. According to him, the universe is not static, but it is continuously expanding.

### Big Bang Theory: Origin of the Universe:

According to the concept of the "Big Bang theory", the universe came into being from "the point of singularity". Initially, the universe was closed inside a bubble. Suddenly, it erupted and the universe originated from <sup>the</sup> higher and the denser point.

## Phenomena of the Origin of the Universe:

As the universe expanded and cooled, energy particles changed into matter and anti-matters. As a result, proton and neutron destroyed each others.

Creation of the Universe

Survived particles

Proton and Neutron Combined



Age of the Universe

→ 1 second

↓  
Temperature dropped 1 billion ~~increased~~ degrees.

↓  
After <sup>three</sup> ~~2~~ minutes

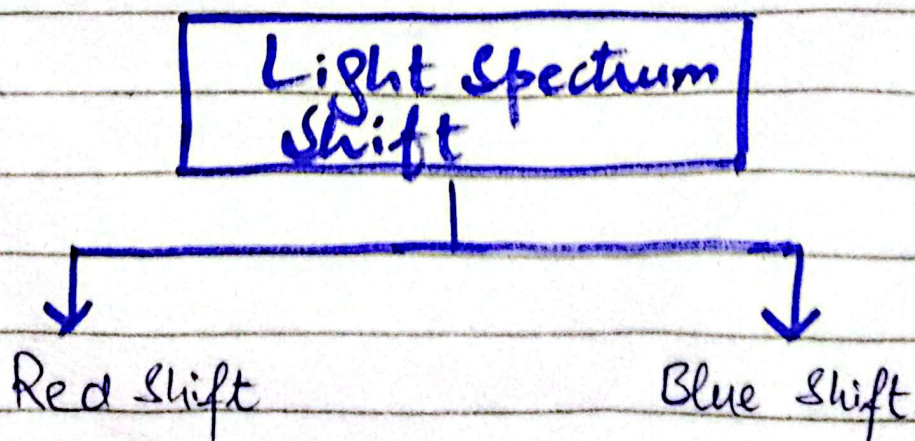
↓  
Hydrogen and Helium nuclei formed

## Big Bang Theory and the Celestial Bodies:

After 300,000 year, temperature of the universe reduced to 3000 degrees celsius. Aftermath, atomic nuclei <sup>could</sup> capture electrons to form atom. Therefore, the universe was filled with clouds of hydrogen and helium gas. As a ensue, these clouds of dust and gas formed the celestial bodies.

## Evidence for the Big Bang Theory:

The spectrum of light has two shifts. They are as described below:



## Red Shift:

i- Object moves away from the earth with increasing wavelength.



Opposite to each other

## Blue Shift:

i- Object moves towards the earth with decreasing wavelength.