SCIENCE

ASTRONOMY & ASTRONOMICAL DISTANCES

ASTRONOMY

Astronomy is a branch of science that deals with the study of celestial objects and their phenomena related to it. It involves the study of the evolution of the universe, the formation and motion of celestial objects.

Have you ever wondered watching a night sky? If not, try it out first.

The experience of watching the sky at night will be wonderful in a place where the air is so clear without any bright lights. This fascinating experience can be attained in a village than in the city. In cities, the sky will not be so clear due to dust, smoke and bright lights.

Astronomical Distances

The billions of stars and other heavenly bodies in the universe are separated by such a large distances, so the ordinary units for measuring distances on earth i.e. metres, kilometers or miles are not adequate for the purpose.

For measuring these extremely large distances, we use two astronomical units, the light year and the parsec.

A light year is defined as the distance travelled by light in one year.

The speed of light is 300,000 km/s and 1 year has $1 \times 365 \times 24 \times 60 \times 60$ seconds.

$\therefore$ 1 Light year $= 300000 \times 365 \times 24 \times 60 \times 60$ km

1 Light year $= 9.46 \times 1012$ km.

Another unit commonly used for measuring astronomical distances is the parsec.

1 parsec is equal to 3.26 light years.

The distance travelled bythe light at a speed of 300,000 km/s in one minute (60 seconds) is called a light minute.

1 light minute = × 1 minute = 18,000,000 km = 18 × 106 km.