

# **KATWA COLLEGE**

## **DEPARTMENT OF PHYSICS**

### **INTERNAL ASSESSMENT EXAMINATION -2024**

**B.Sc. (H), SEMESTER: - VI,**

**PAPER:- DSE-4 (Astronomy & Astrophysics)**

**F.M: 10**

**TIME: 1 HOUR**

**❖ Answer any four from the following questions: -4 x 2.5 = 10**

1. What is light year and Parsec? How are they related?
2. What do mean by annual parallax?The nearest star Proxima Centauri has annual parallax angle  $0.77$ arc-seconds. Find out its distance in parsec.
3. What is apparent magnitude and apparent brightness of a star? How are they related?
4. What is distance modulus?The absolute magnitude of a star is  $M = -2$  and the apparent magnitude  $m = 8$ . What is the distance of the star in pc?
5. What is the indirect method of measurement of radius of astronomical object using Stefan-Boltzman law of radiation by comparing its luminosity  $L$  and temperature  $T$  with the reference astronomical object.
6. What is the eclipsing binary star system? Explain periodic nature of this binary stars by drawing their nature of light curve.
7. Write down the Wien's law of black body radiation. How one can estimate surface temperature of the star using this law?