

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc.DEGREE EXAMINATION –PHYSICS

FOURTH SEMESTER – APRIL 2018

16UPH4ES01– ASTRONOMY AND ASTROPHYSICS

Date: 23-04-2018

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

PART A

Answer **ALL** questions:

(10 x 2 = 20)

1. Define Celestial Sphere.
2. What is meant by equinoxes and solstice?
3. Define the quantity used to categorize the light gathering power of the telescope.
4. List any two differences between radio telescope and optical telescope.
5. What is known as trigonometric parallax?
6. Define Parsec in astronomical measurement.
7. Define a protostar.
8. State Stefan Boltzmann law.
9. State Hubble's law.
10. Define a Galactic year.

PART B

Answer **Any Four** questions:

(4 x 7.5 = 30)

11. Explain Diurnal motion of sun and stars.
12. Describe the principle of operation of Gassegrain reflector with suitable ray diagram.
13. Derive the relation connecting Absolute magnitude, Apparent magnitude and distance of the star.
14. Explain visual binaries and astrometric binaries.
15. List the properties of each galaxy.
16. Explain the spectral classification of stars.

PART C

Answer **Any Four** questions:

(4 x 12.5 = 50)

17. Explain the variations in the duration of day and night during a year.
18. Describe the physics of Charge Coupled Device (CCD) in the camera of a telescope.
19. Explain extinction and optical thickness in Astronomy.
20. Explain Morgan Keenan classification of stars.
21. Describe our Milky Way galaxy.
22. Explain the types of Galaxy categorized by Hubble.
