

Course for B.Sc. (Physics), Semester-VI
Subject: Elective Paper: Theoretical and Observational Aspects of Astronomy
Number of Lectures: 50

Preamble: *This course is one of the elective papers offered by the Department of Physics, Visva-Bharati. Students of Siksha-Bhavana having Physics and Mathematics as main subject (not fourth subject) in the +2 level may opt for this course. To have clear sky condition, the paper will be introduced in even semester.*

1. (a) What is astronomy?- An introduction the prospects of astronomy.
(b) An overview on spherical trigonometry.
(c) Geodesics, small circles and great circles. (5)
2. (a) Earth and the related terrestrial astronomy.
(b) Celestial Sphere and related topics.
(c) Three systems of celestial coordinates and their transformations. (15)
3. (a) Time associated with astronomy.
(b) Astronomical refraction, parallax, aberration, precession and nutation. (5)
4. General description of (a) sun and solar system, (b) comets, (c) meteors,
(d) moon and (e) eclipses. (10)
5. Stellar Astronomy:
(a) stars, (b) constellations, (c) Stellar magnitudes, (d) variable
stars, (e) double stars and (f) Cepheid variables. (10)
6. Observational astronomy. (5)

References:

1. Text book of astronomy and astrophysics with elements of cosmology, V.B. Bhatia, Narosa publishing house, 2001.
3. Astrophysics- stars and galaxies, K.D. Abhyankar, Universities press, 2001
4. Astronomy, K,K, Dey