



Total No. of Questions: 4/20

Total No. of Pages: 02

Class: F.Y.B. Sc. (General)

PHY 12204 : Astronomy and Astrophysics  
Semester: II

Program: B.Sc. Code (Gen03)  
Program (Specific): General B.Sc.  
Course Type: Minor

Credits: 2  
Time: 2Hr  
Max. Marks: 30  
SET: A

**Instructions to the candidate:**

- 1) *There are 4 sections in the question paper. Write each section on separate page.*
- 2) *All Sections are compulsory.*
- 3) *Figures to the right indicate full marks.*
- 4) *Draw a well labeled diagram wherever necessary.*
- 5) *Use of calculator and log table is allowed.*

**SECTION: A**

**Q1) Answer the following (any 5)**

**[5 x1 = 05]**

- i) How much is one Solar radius in meter?
- ii) Define one light year?
- iii) What is a protostar?
- iv) Define light gathering power of a telescope.
- v) What is a neutron star?
- vi) Define radiant flux.
- vii) What is latitude of a place?

**SECTION: B**

**Q2) Answer the following (any 5/7)**

**[5 x2 = 10]**

- i) Explain Blue Shift.
- ii) What are optical filters?
- iii) Define coordinates of a Local equatorial system.
- iv) The apparent magnitudes of stars Arcturus and Aldebaran are 0.06 and 0.86 respectively. Calculate the ratio of their brightness.
- v) Explain working of a photometer.
- vi) What is chemical composition of photosphere?
- vii) Draw a neat diagram showing components of milkyway galaxy.

**SECTION: C**

**Q3) Answer the following (any 2/4)**

**[2 x 5 = 10]**

- i) Explain the working of a CCD Camera.
- ii) With the help of a neat diagram, explain trigonometric parallax.
- iii) Define apparent Magnitude.

The apparent magnitude of full moon is -12.5 and that of the Venus is at its brightest - 4.0.  
Which is brighter and by how much?

- iv) With the help of neat labeled diagram, explain great and small circle.

**SECTION: D**

**Q4) Answer the following (any 2/4)**

**[5 x1 = 05]**

- i) Explain Hubble's tuning fork diagram.
- ii) With the help of neat labeled diagram explain solar eclipse and its types.

-----x-----