

Reg. No. :

Name :

VI Semester B.Sc. Degree (CBCSS-Supple./Improv.)
Examination, April 2022
(2016 – 2018 Admissions)
CORE COURSE IN PHYSICS
Elective : 6B15 PHY – B: Astronomy and Astrophysics

Time : 3 Hours

Max. Marks : 40

Instruction : Write answers in English only.

SECTION – A

Answer **all** – Very short answer type – **Each** question carries **one** mark.

1. The magnitude of the faintest star so far observed with 200 inch reflector telescope.
2. The color index B-V of a hot star is _____ sign.
3. Give an example of telescopic aberration.
4. Declination and right ascension are the two coordinates of _____ system.

SECTION – B

Answer **any seven** – Short answer type – **Each** question carries **two** marks.

5. How a black hole is formed ?
6. What is solar telescope ?
7. Distinguish between white dwarf and black hole.
8. What is Schwarzschild radius of a black hole ?
9. Describe Zenith and Nadir.
10. Explain Limb darkening.

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11. Give any four main parts of a telescope.
12. What are the quantities on which the brightness of a star depends on ?
13. Give period-luminosity law.
14. What is meant by absolute magnitude ?

SECTION – C

Answer **any four** – Short essay / problem type – **Each** question carries **three** marks.

15. Define the following :
 - 1) Photovisual Magnitude
 - 2) Photographic Magnitude.
16. Explain cluster parallax and secular parallax method.
17. Briefly describe any method to determine astronomical distance.
18. Explain the internal pressure of a star.
19. Explain the formation of neutron stars.
20. Explain coma and spherical aberration.

SECTION – D

Answer **any two** – Long essay type – **Each** question carries **five** marks.

21. Explain the Harvard system of special classification and the HD catalogue.
22. Explain the following : Horizontal system, Equatorial system and Ecliptic system.
23. Discuss the Stellar positions and any two celestial co-ordinate system for describing the position of a heavenly object.
24. Give an account on the internal structure and atmosphere of sun.