K22U 0143

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.
