K23U 0243

Reg. No. : .....

Name : .....

VI Semester B.Sc. Degree (CBCSS – Supplementary) Examination, April 2023
(2017 to 2018 Admissions)
CORE COURSE IN PHYSICS
6B15PHY (Elective) : B. Astronomy and Astrophysics

Time : 3 Hours Max. Marks : 40

SECTION – A

Answer **all** the questions. Very short answer type. **Each** carries **1** mark.

1. Our galaxy is known as the _____
2. Which is the brightest star outside the Solar System ?
3. How does the sun produce energy ?
4. The planet which appears reddish in colour is _____

(4×1=4)

SECTION – B

Answer **any seven**. Short answer type. **Each** carries **2** marks.

5. What is interstellar space ?
6. What is a black hole ?
7. What is meant by magneto tail ?
8. How does a celestial coordinate system work ?
9. How does solar wind affect Earth ?
10. What is meant by latitude effect of cosmic rays ?
11. Where do most comets arrive from ?
12. Define emission spectrum.

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13. What are pulsars ?
14. What causes solar faculae ?

(7×2=14)

SECTION – C

Answer **any four**. Short essay/problem type. **Each** carries **3** marks.

15. How do quasars form ?
16. What happens in a supernova explosion ?
17. How solar wind is formed ?
18. If a star's surface temperature is 30,000 K, how much power does a square meter of its surface radiate ?
19. Why do we study the Sun ?
20. Calculate the wavelength of a photon emitted when an electron in H-atom makes a transition from n = 2 to n = 1.

(4×3=12)

SECTION – D

Answer **any two**. Long essay type. **Each** carries **5** marks.

21. Describe the general properties of starburst galaxies and explain how these starbursts might be triggered.
22. What is HR Diagram ? How does it work ?
23. Make an essay on blackbody radiation highlighting the ultraviolet catastrophe and the inclusion of the quantum hypothesis to solve it.
24. How does redshift support an expanding universe ?

(2×5=10)
