



K23U 0532

Reg. No. : .....

Name : .....

**VI Semester B.Sc. Degree (CBCSS-OBE-Regular/Supplementary/  
Improvement) Examination, April 2023  
(2019 and 2020 Admissions)**

**DISCIPLINE SPECIFIC ELECTIVE IN PHYSICS  
6B14 PHY (4) – Cosmology**

Time : 3 Hours

Max. Marks : 40

**SECTION – A**

(Answer **all** questions. **Each** carries **1** mark.)

1. The word cosmology is derived from the Greek word \_\_\_\_\_
2. Point at which measurable quantities becomes infinite is called \_\_\_\_\_
3. Red shift is due to \_\_\_\_\_.
4. CMBR stands for \_\_\_\_\_.
5. According to Hubble's law, the farther galaxy will move \_\_\_\_\_ from us.
6. Gravitational wave is a consequence of \_\_\_\_\_ theory.

**(6×1=6)**

**SECTION – B**

(Answer **any six** questions. **Each** carries **2** marks.)

7. State cosmological principle.
8. Briefly explain universal gravitational force.
9. What is meant by secondary distance indicators ?
10. What is Olbers' paradox ?
11. Define Hubble's constant. What is its relevance ?
12. What was Chinese myth related to cosmology ?

P.T.O.



13. What is called an open universe ?

14. What is meant by redshift ?

(6×2=12)

SECTION – C

(Answer **any four** questions. **Each** carries **3** marks.)

15. Explain are the basic assumptions of Friedman model.

16. State and explain Einstein's equivalence principle.

17. Explain the singular nature of light.

18. Explain the curvature of space time and formation of black hole.

19. What was Einstein's biggest blunder ?

20. Explain general theory of relativity.

(4×3=12)

SECTION – D

(Answer **any two** questions. **Each** carries **5** marks.)

21. What are Einstein's contributions in cosmology and explain general theory of relativity.

22. State Hubble's law. How did it explain the expansion of the universe ?

23. Discuss the different distance measures of stellar objects.

24. Explain Big Bang theory of the origin of universe.

(2×5=10)

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