



25020383

QP CODE: 25020383

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE / MERCY CHANCE
EXAMINATIONS, FEBRUARY 2025**

Sixth Semester

CHOICE BASED CORE COURSE - PH6CBT05 - ASTRONOMY & ASTROPHYSICS

Common for B.Sc Physics Model I, B.Sc Physics Model II Applied Electronics, B.Sc Physics Model
II Computer Applications & B.Sc Physics Model III Electronic Equipment Maintenance

2017 Admission Onwards

5FA5BA14

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What is the importance of X-ray astronomy?
2. The Cosmic Microwave Background radiation (CMB) fills the universe. If temperature of the space is 2.7 K then CMB attains intensity maxima at a wavelength?
3. What is the focal length of a 6-inch f/8 reflector telescope?
4. What are cardinal points in astronomy?
5. When it is summer in the northern hemisphere, it is winter in the southern hemisphere. Why?
6. Define solar day.
7. Distinguish between solar flares and prominence.
8. What is Jeans mass?
9. Why a Black hole is called so?
10. What is the basic idea of cosmological principle?
11. What is meant by Big Bang nucleosynthesis?
12. State Hubble's law.

(10×2=20)





Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Describe various astronomical distance scales
14. Describe the Pogson's Magnitude scale to classify stars based on brightness .
15. Discuss the properties of Solar corona.
16. Briefly explain the formation of a protostar.
17. Discuss the characteristic properties of White Dwarfs.
18. Briefly discuss the spectral classification of stars.
19. Draw the Hertzsprung Russel diagram.
20. How can we estimate the expansion rate of the universe?
21. Can we observe the darkmatter? Justify your answer.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. What are the uses of optical telescopes? Describe Refracting and Reflecting telescopes.
23. Describe various systems of coordinates that are used to specify the position of objects in the sky?
24. Define the term Galaxy. Describe the Hubble's classification of galaxies.
25. Describe in detail about nucleosynthesis and energy production in stars.

(2×15=30)

