

QP CODE: 25003405



Reg No : .....  
Name : .....

**UNDER GRADUATE (CBCS) SPECIAL REAPPEARANCE EXAMINATIONS,  
FEBRUARY 2025**

**Fifth Semester**

(Offered by the Board of Studies in Physics )

**OPEN COURSE - PH5OPT01 - OUR UNIVERSE**

2022 Admission Only

BAC8AE4E

Time: 3 Hours

Max. Marks : 80

**Part A**

*Answer any **ten** questions.*

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

1. Who proposed the geocentric model of the universe and what is considered as the center of the universe according to this model?
2. How far is the closest star?
3. What is meant by Event Horizon of a Black Hole ?
4. What are cardinal points? How to identify north in a starry night?
5. What are the longest and shortest days of the year in northern hemisphere?
6. What are the southern zodiac constellations?
7. How much is the approximate size of our galaxy in light years ?
8. What do you mean by resolving power of a telescope?
9. Which is the outer layer of the sun's atmosphere?
10. What are jovian planets?
11. Why is Venus called Earth's twin?
12. What Causes the seasons of Earth?

(10×2=20)

**Part B**

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Which observation of Galileo did serve as a strong support to the Copernican Model of the Universe ? Explain.
14. List the Observations favouring the Big Bang theory.
15. What is redshift? How is it important in cosmology?
16. Define apparent solar time and mean solar time. Why mean solar time differs from apparent solar time?
17. How does a telescope's light gathering ability change in response to change in diameter of its objective?
18. Explain radio telescopes. Do they work during cloudy days?
19. What are Sunspots? Describe the characteristics of Sunspots.
20. Give the definition of Planet.
21. State the Universal Law of Gravitation. Give the Mathematical Form and Explain each term.

(6×5=30)

### Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Define the term Galaxy. Describe the Hubble's classification of galaxies.
23. State and explain Hubble's law of expansion of the universe and the concept of cosmological redshift.
24. Define Celestial sphere. Briefly discuss about the celestial coordinate systems.
25. Briefly describe the Solar system and its members.

(2×15=30)

