QP CODE: 22100040

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Reg No : .....

Name : .....

UNDER GRADUATE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS, JANUARY 2022

Fifth Semester

(Offered by the Board of Studies in Physics)

OPEN COURSE - PH5OPT01 - OUR UNIVERSE

2017 Admission Onwards

2136040F

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Name the model of Universe proposed by Claudius Ptolemaeus.
2. What is Hubble's constant?
3. What is Doppler effect?
4. What is ecliptic?
5. What is the International Date Line?
6. True or False: “Orion is a zodiac constellation”
7. What is the function of objective lens of a telescope?
8. Which institute operates the GMRT ?
9. What are Sunspots?
10. How many planets are in our solar system? List them.
11. How much is a Mercurian year?
12. Why are meteorites important to scientists?

(10×2=20)

Part B

*Answer any **six** questions.*

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

13. Explain how Irregular Galaxies are formed from Elliptical or Spiral Galaxies.
14. Discuss the standard big-bang theory for the origin of universe.
15. What is Chandrasekhar limit?
16. Explain the essentials of ecliptic coordinate system.

17. Explain equinoxes and solstices with help of a diagram.

18. What is stellar parallax? How it helps to find the distances to stars?

19. Write a short note on the planet Saturn.

20. State the Universal Law of Gravitation. Give the Mathematical Form and Explain each term.

21. What will be the situations if the earth has no tilt? Or tilted 90^{o}?

(6×5=30)

Part C

*Answer any **two** questions.*

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

22. (a)Discuss the main features of Ptolemy's geocentric model of the Universe. (b)State and explain Kepler's laws of planetary motion.

23. Briefly explain the stellar evolution.

24. Explain various parameters associated with an optical telescope. Describe various types of optical telescopes used in astronomical observations.

25. Describe the structure of Sun.

(2×15=30)