

(Pages : 4)

P – 8173

Reg. No. :

Name :

Fifth Semester B.A/B.Sc/B.Com Degree Examination, March 2023

First Degree Programme under CBCSS

Double main Programme

Physics

Open Course

PY 1551.2 : ASTRONOMY AND ASTROPHYSICS

(2020 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

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

1. Who is considered the father of empirical astronomy?
2. Name the branch of astronomy that deals with calculations of the motions of celestial bodies.
3. Who prepared the table of planetary positions that led to Kepler's laws?
4. Where in the Milky way, the sun is located?
5. Who identified individual stars in Andromeda?
6. How did astronomers find out what various heavenly bodies / objects in space are made of?

P.T.O.



7. What is the typical position of white dwarfs in the HR diagram?
8. Name the first space mission to visit Venus.
9. Name the terrestrial planets.
10. Is zodiac different from ecliptic? Explain.

(10 × 1 = 10 Marks)

SECTION – B

Short answer. Answer any **eight** questions. Each carries **2** marks.

11. Name any three space based astronomical tools.
12. Name any two radio telescopes.
13. Which planet has most number of moons? Which among them can host life?
14. Why Uranus is called a sideways planet?
15. What was the contribution of Newton for modern astronomy?
16. Are asteroids and meteorites different?
17. What is meant by colour of a star?
18. Differentiate between solar flare and solar wind.
19. Is supernova a star? Explain.
20. Name two branches of astronomy.
21. What are the effects of precession of earth?
22. What is the significance of Chandrasekhar limit?
23. How will you remember spectral class of stars?



24. Name the final stages of high mass stars.
25. Name the classes of galaxies.
26. What information is needed to plot a star in H-R diagram?

(8 × 2 = 16 Marks)

SECTION – C

Answer any **six** questions. Each question carries **4** marks.

27. How will you distinguish comets and asteroids?
28. What is special about Kuiper belt?
29. Explain the terms equinox and solstice.
30. How did the solar system originate?
31. What are constellations?
32. Why special theory of relativity is important in astronomy?
33. What are Kepler's law?
34. Give a brief note on comets.
35. How do you define a planet?
36. What is universal law of gravity?
37. Briefly outline the features of milk way galaxy.
38. Explain celestial coordinate system.

(6 × 4 = 24 Marks)



SECTION – D

Answer any **two** questions. **Each** question carries **15** marks.

39. How do seasons occur? How does it affect human life?
40. Outline the contributions of Nicolaus Copernicus and Galileo Galilee.
41. Give short notes on (a) sunspots (b) solar wind (c) prominence and (d) solar flare.
42. Describe lunar and solar eclipses with suitable diagrams.
43. Explain the evolutionary stages of a main-sequence star.
44. Describe Hertzsprung-Russell diagram with suitable schematic.

(2 × 15 = 30 Marks)

