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S – 1653

Reg. No. :

Name :

Fifth Semester B.Sc. Degree Examination, December 2023

First Degree Programme Under CBCSS

Physics

Open Course

PY 1551.2 – ASTRONOMY AND ASTROPHYSICS

(2018 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions, each carries **1** mark.

1. Define Astronomy.
2. What is meant by apparent magnitudes?
3. Compare contributions of Johannes Kepler and Tycho Brahe.
4. Explain Galilean contributions.
5. Explain nuclear fusion.
6. Discuss about sun's surface temperature.
7. Mention any physical properties of sun.
8. Discuss evolution of sun.

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9. What is blackhole?

10. Define luminosity of a star

(10 × 1 = 10 Marks)

SECTION – B

Short Answer. Answer any **eight** questions, each question carries **2** marks.

11. Discuss about branches of astronomy.
12. What you understand about stellar magnitudes.
13. Explain the term celestial sphere.
14. Discuss third law of Kepler's planetary motion.
15. Discuss Copernican contribution.
16. Discuss Tycho Brahe's observations of planetary motion
17. Discuss about suns chromosphere and corona.
18. Discuss about solar wind.
19. Write a short note on Planets and Satellites
20. Discuss Kuiper belt.
21. Compare neutron star and black hole.
22. Briefly explain about supernova.

(8 × 2 = 16 Marks)

SECTION – C

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

23. Discuss Precession of earth's axis.
24. Explain various constellations.
25. Discuss Newton's universal law of gravity.

26. Briefly explain Ptolemy's model of universe.

27. Discuss about lunar and solar eclipses.

28. Write a short note on comets and meteorites.

29. Discuss the term sunspot cycle.

30. Explain about Neutron stars.

31. Discuss Hertzsprung-Russel diagram of stars

(6 × 4 = 24 Marks)

SECTION – D

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

32. Discuss in detail celestial coordinate system.

33. Explain in detail Kepler's laws of planetary motion.

34. Discuss formations of different seasons according to motion of earth.

35. Briefly explain the milky way galaxy. Explain types of galaxies according to shape.

(2 × 15 = 30 Marks)