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S – 7421

Reg. No. :

Name :

Fifth Semester B.A. / B.Sc. / B.Com. Degree Examination, February 2024

First Degree Programme under CBCSS

Double Main Programme

Physics

Open Course

PY 1551.2 : ASTRONOMY AND ASTROPHYSICS

(2020 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A

Answer **all** questions in **one** or **two** sentences.

1. Define celestial coordinate system.
2. What is astronomy?
3. What are the contributions of Nicolaus Copernicus?
4. Define corona of the sun.
5. Are sun spots hot or cold.
6. Why do stars have colour?
7. What causes a lunar?

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8. What are stars made of?
9. Define stellar evolution.
10. How neutron stars are formed.

(10 × 1 = 10 Marks)

SECTION – B

Answer any **eight** questions.

11. Give the difference between absolute magnitude and apparent magnitude.
12. What are sun spot?
13. List out the physical properties of planets in the solar system.
14. Classify the branches of astronomy.
15. State and explain kepler's third law of planetary motion.
16. How do you relate colour of a star and its surface temperature?
17. Write a note on black holes.
18. What do we have seasons on earth?
19. Explain different spectral types of stars.
20. Differentiate between the star and planet.
21. What is supernova?
22. How do a prominence and a flare differ?

(8 × 2 = 16 Marks)



SECTION – C

Answer any **six** questions.

23. What is meant by precession of earth axis and how does it affect celestial coordinate system?
24. State and explain universal law of gravity.
25. Explain different regions in Hertzsprung - Russell diagram of stars.
26. Explain Ptolemaic model of solar system.
27. What are constellations? Name and explain some major constellations.
28. Write a note on milky way galaxy.
29. Explain solar eclipse with diagram.
30. What is solar wind? How solar wind is originated?
31. Classify galaxies based on their shape.

SECTION – D

(6 × 4 = 24 Marks)

Answer any **two** questions.

32. Explain celestial sphere. Describe the motions of earth and stars in the celestial sphere.
33. Briefly discuss the contributions of Galileo, Tycho Brahe and Einstein in the field of astronomy.
34. Give an account on the physical properties, internal structure and atmosphere of Sun.
35. Discuss in detail the satellites, asteroid belt, comets and meteorites in solar system.

(2 × 15 = 30 Marks)

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