

Reg. No. :

Name :

Sixth Semester B.Sc Degree Examination, March 2021.

First Degree Programme under CBCSS

Physics

Elective Course

PY 1661.2 – SPACE SCIENCE

(2015 - 2017 Admission)

Time : 3 Hours

Max. Marks : 80

SECTION – A

(Answer **all** questions in one or two sentences; each question carries **1** mark)

1. What is meant by field galaxy?
2. What is Hubble's constant?
3. What do you meant by Milky Way?
4. What are the seven types of stars?
5. What do the colors of stars in the Hertzsprung Russell diagram tell us?
6. What is meant by latitude effect of cosmic rays?
7. Write down the correct order of earth's atmospheric layer from bottom to top.
8. Define the term atmosphere.

9. What is a supernova?
10. What is the value of Earth's magnetic field?

(10 × 1 = 10 Marks)

SECTION – B

(Answer **any eight** questions, not exceeding a paragraph; each question carries **2 marks**)

11. How do quasars form?
12. With diagram, explain the term celestial equator and celestial meridian.
13. Explain Holmberg radius.
14. What is the meaning of Chandrasekhar limit? What causes the Chandrasekhar limit?
15. Write a note on black holes.
16. How does solar wind affect earth's atmosphere?
17. Distinguish between primary and secondary cosmic rays.
18. What are the different layers of the sun?
19. How does the boundary layer changes with increasing solar radiation?
20. What are neutron stars made up of? What is the lifespan of a neutron star?
21. Give an account of Van Allen radiation belt.
22. How do you find the magnetic field of the earth?

(8 × 2 = 16 Marks)

SECTION – C

(Answer **any six**, each question carries **4** marks)

23. How does the study of cosmology relate to astronomy?
24. Explain HR Diagram.
25. Write a note on white dwarfs.
26. Calculate the total intensity of the sun.
27. What are the differences between the stratosphere and the mesosphere?
28. What are the characteristics of thermosphere?
29. Explain the structure of Earth's magnetosphere.
30. A star with the same color as the Sun is found to produce a luminosity 81 times larger. What is its radius compared to the Sun?
31. Give an account of Chapman-Ferraro current.

(6 × 4 = 24 Marks)

SECTION – D

(Answer **any two** questions; each question carries **15** marks)

32. Briefly explain the theory of expansion of Universe.
33. Explain gravitational potential energy and internal temperature of a star.
34. What are three types of solar activity? Briefly explain sunspots and solar storms?
35. Discuss the different layers of ionosphere. Explain their charge distribution.

(2 × 15 = 30 Marks)