



MAR IVANIOS COLLEGE (AUTONOMOUS)
THIRUVANANTHAPURAM

Reg. No. :.....

Name :.....

Fifth Semester B.Sc. Degree Examination, November 2016

First Degree Programme under CBCSS

Open Course: Physics – I

AUPY581: Astronomy and Astrophysics

Time: 3 Hours

Max. Marks: 80

SECTION – A

Answer ALL questions in a word or one or two sentences.

1. What is a geocentric system ?
2. What do you mean by Gamowian time ?
3. Who was the first ancient astronomer who determined the size of the moon ?
4. What are quarks ?
5. Which is the outermost layer of the sun ?
6. What is a Keplerian telescope ?
7. What is the origin of electromagnetic radiations ?
8. What are planetsimals ?
9. What is Chandrasekhar limit ?
10. In which year did the Julian period begin ? Who devised it ?

(10 × 1 = 10 Marks)

SECTION – B

Answer any EIGHT questions, not exceeding a paragraph.

11. What are the scientific methods followed by astronomers in developing Astronomy ?
12. Write a note on the contributions of Aristarchos in ancient astronomy.
13. Describe Galileo's telescopes and his major observations using it.
14. What is the mechanism of energy production in the Sun ?

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15. Write a brief note on Cepheids.
16. Describe the features of the planet Mercury.
17. What are planetary rings ?
18. What do you mean by T Tauri stage of a star ?
19. Describe the classification of stars on the basis of spectral types.
20. Briefly describe the evolution of stars.
21. Write a note on black holes.
22. Give the salient features of the Egyptian calendar.

(8 × 2 = 16 Marks)

SECTION – C

Short essay type : Answer any SIX questions.

23. Discuss the importance of Astronomy.
24. Describe the works of Johannes Kepler in developing the science of planetary motion.
25. Explain Renaissance Astronomy.
26. Describe the formation of planets.
27. How can you determine the size of a star from its luminosity ?
28. Describe the features of interstellar space.
29. What are the changes that occur in the sun when it becomes a red super giant ?
30. Briefly explain the three basic types of galaxies.
31. Describe the change of seasons on the earth.

(6 × 4 = 24 Marks)

SECTION – D

Long essay type : Answer any TWO questions.

32. Describe the major contributions made by ancient astronomers in Astronomy.
33. Tabulate the sequence of incidents, features and properties of the universe, since its origin from the age of zero seconds, based on Big Bang theory.
34. Describe briefly the structure and properties of the sun and the planets in our solar system.
35. Give a description of the birth, evolution and the various stages of a star and how it finally ends up with supernova explosion.

(2 × 15 = 30 Marks)
