

**STELLA MARIS COLLEGE(AUTONOMOUS) CHENNAI-86**  
Subject Code: 15PH/UI/AP23  
**BA/B.Sc/B.Com/B.C.A/B.S.W. DEGREE EXAMINATION**  
**NOVEMBER 2019**

**COURSE: INDEPENDENT ELECTIVE**  
**PAPER: ASTRO PHYSICS**

**MAX MARKS:100**  
**TIME: 3 HRS**

**Section-A**

**Answer ALL the Questions (10x3=30)**

1. The nearest star Proxima Centuari has a  $0.76''$ . Give its distance in parsec, a.u and light years.
2. Explain the terms radial velocity, colour index and variable stars.
3. What are three irregularities in the solar system?
4. Differentiate the terms meteoroid, meteorite and meteor.
5. Name the twelve constellations in the zodiac path of the sun.
6. How do astronomers detect light?
7. Why is the sky blue?
8. What is olber's paradox?
9. Describe a typical quasar.
10. Draw the solar system.

**Section-B**

**Answer any SIX (5x5=25)**

1. Describe Julian calendar, Gregarian calendar and leap year rule.
2. Venus and Mars have distinct different motions among stars. Describe their motions.
3. Discuss the various stages in the life cycle of a star.
4. Describe the solar wind. What causes it?
5. Is life elsewhere in the universe?
6. Discuss the various methods of mounting telescopes.
7. Briefly comment on center of galaxy and shape of our galaxy.

**Section-C**

**Answer any TWO (3x15=45)**

1. a. How are stars classified according to their spectra. (14)  
b. Give the significance and results of the H-R diagram. (6)
  2. Explain a. Internal structure of stars b. Stellar Brightness c. visual binaries  
d. Stellar co-ordinates.
  3. How does a telescope work? Describe reflecting and refracting telescopes.
  4. a. Describe each of the three types of galaxies.(5)  
b. What are the nearest irregular galaxies.(5)
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