

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086**  
**(For the candidates admitted during the year 2015-2016)**

**B.A./ B.Com./ B.C.A./ B.S.W./ B.Sc. DEGREE EXAMINATION APRIL 2018**

**CODE: 15PH/UI/AP23**

**COURSE : INDEPENDENT ELECTIVE**

**MAX. MARKS: 100**

**PAPER : ASTROPHYSICS**

**TIME : 3 HRS.**

**SECTION A**

**ANSWER ALL THE QUESTIONS**

**(10X3=30)**

1. What is a black hole?
2. Draw the Hertzsprung-Russell diagram.
3. What is Chandrasekhar limit?
4. Why is the sky blue?
5. What are solar flares?
6. What is a light year?
7. Differentiate the terms Meteors and Meteorites.
8. Comment on the expansion of the Universe.
9. What is Maunder minimum?
10. State Kepler's third law

**SECTION B**

**ANSWER ANY FIVE QUESTIONS**

**(5X5=25)**

1. Write a brief note on the life cycle of a star.
2. Briefly explain the constellations
3. Write a note on the Radio galaxies.
4. Explain the internal structure of a star.
5. What is Titius-Bode's law? Give a brief description of the Asteroids.
6. How do astronomers detect light?
7. Write a note on the three types of galaxies.

## SECTION C

ANSWER ANY THREE QUESTIONS

(3X15=45)

1. Discuss the various types of Binary stars. Explain the Mass- Luminosity relation
2. How are stars classified according to their Spectra? Give the significance and the results of H-R diagram.
3. Explain in detail the different types of Astronomical Telescopes.
4. Discuss the structure, orbit, orbital orientation and the detection of Comets.

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