

D. G. Ruparel College
Department of Physics
Certificate Course in Astronomy
Lectures Schedule

| | Topic | Contents | Date | Speaker |
|---|--|--|------------------------------|---------------------------|
| 1 | Eclipses | 1.Lunar Eclipse | 28 th July 2018 | Prof. Hemant Mone |
| 2 | Solar System | 1. Formation 2. Gas giants 3. Meteorite Belt 4. Comets and Oort Cloud 5. Exoplanets | 4 th August 2018 | Prof. Mahesh Shetti |
| 3 | Celestial Coordinate Systems | 1. Identification of Stars 2. Spherical Coordinates 3. The Altazimuth System 4. The Local Equatorial System 5. The Universal Equatorial System 6. Other Systems 7. Conversion of Coordinates | 11 th August 2018 | Prof. Hemant Mone |
| 4 | Special Theory of Relativity | 1. Relativistic Kinematics 2. Relativistic Dynamics 3. Relativity and Electromagnetism 4. Introduction to General Relativity | 18 th August 2018 | Prof. Sumedh Sawant |
| 5 | Spherical Astronomy (Positional Astronomy) | 1. Celestial Sphere 2. Time 3. Effects of Precession and Nutation 4. Constellations 5. Ecliptic 6. Elongation and Quadrature | 25 th August 2018 | Prof. Hrishikesh Joglekar |

| | | | | |
|----|--------------------------------|--|---------------------------------|---------------------------|
| 6 | Time in Astronomy | <ol style="list-style-type: none"> 1. Different units of time measurements in astronomy 2. Gregorian and Julian Calendar 3. Solar and Sidereal time | 1 st September 2018 | Prof. Hrishikesh Joglekar |
| 7 | Stellar Evolution and Galaxies | <ol style="list-style-type: none"> 1. Birth of Star 2. H – R diagram 3. Main Sequence 4. Energy production in the Star 5. End of the Star 6. Types of Galaxies 7. Formation and Evolution of Galaxies | 8 th September 2018 | Dr. Anwesh Mujumdar |
| 8 | Astrophotography | <ol style="list-style-type: none"> 1. Selection of Camera 2. Taking Photograph of Celestial Objects 3. Post – Processing of the Photographs | 22 nd September 2018 | Dr. Vinita Navalkar |
| 9 | Exotic Objects in Space | <ol style="list-style-type: none"> 1. Quasars 2. Pulsars 3. Gamma Ray Bursts and Active Galactic Nuclei 4. Black holes and Supermassive Black holes | 1 st December 2018 | Prof. Sumedh Sawant |
| 10 | Cosmology | <ol style="list-style-type: none"> 1. Origin and Fate of the Universe 2. Large Scale Structure of the Universe 3. Big – Bang Theory 4. Big – Bang Nucleosynthesis | 8 th December 2018 | Prof. Sumedh Sawant |

- All lectures will be held on Saturdays from 3.00pm to 6.00pm.
- There will be two observation sessions to be held in the month of December 2018 and January 2019.
- Educational visit will be organized in January 2019.

Prof. G.S. Madkaikar
Course Co-ordinator