STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI

Course Schedule: November 2023 - April 2024

Department : Mathematics

Name/s of the Faculty : A. Josephine Lissie

Course Title : Elements of Space Science

Course Code : 19MT/ME/ES45

Shift : Shift -1

Week & No. of hours	Units & Topics	Teaching Methodology	Text & References	Method of Evaluation
Nov 22 – 23, 2023 (Day1 & 2)	Unit 1: Spherical Trigonometry 1.1 Spherical Trigonometry	Demonstration and Lecture	Kumaravelu S., Susheela Kumaravelu, Astronomy. Sivakasi: A.Bhaskara Selvan, Revised and Enlarged Edition 2005, Reprint 2009	Questioning
Nov 24-30, 2023 (Day Order 1 to 6)	Unit 1 1.2 Spherical triangle – Polar triangle 1.3 Some properties spherical triangles 1.4 Relation between the sides and angles of an spherical triangle 1.5 Napier's analogies &rules 1.6 Simple worked examples based on only concepts	Demonstration and Lecture	Kumaravelu S., Susheela Kumaravelu, Astronomy. Sivakasi: A.Bhaskara Selvan, Revised and Enlarged Edition 2005, Reprint 2009.	Discussion
Dec 1-7, 2023 (Day Order 1 to 6)	Unit 1: The Earth 1.7 Dip of Horizon and effects of Dip 1.8 Twilight-Duration of Twilight – Civil, Nautical and Astronomical Twilights	Demonstration and Lecture	Kumaravelu S., Susheela Kumaravelu, Astronomy. Sivakasi: A.Bhaskara Selvan, Revised and Enlarged, Reprint 2009.	Questioning
Dec 8-9, 2023 (Day Order 1, 3)	Unit 2 2.1 Celestial Sphere, Diurnal Motion 2.2 Cardinal points 2.3 Annual motion of the sun First point of Aries and Libra	Power point presentation Video presentation	e-resource	Discussion
Dec 11-15, 2023 (Day Order 2 to 6)	Unit 2 Celestial Sphere, Diurnal Motion 2.4 Celestial Co-ordinates 2.5 To Represent the Different Coordinates in the Same Figure 2.6 To find the Relation between Right Ascension and Longitude of the Sun	Demonstration and Lecture	Kumaravelu S., Susheela Kumaravelu, Astronomy. Sivakasi: A.Bhaskara Selvan, Revised and Enlarged Reprint 2009.	Questioning
Dec 16 – 22,	Unit 2 2.7 To find the Longitude of Sun	Power point presentation	e-resource	III compt_1

2023	on any Day	Video		Quiz -20
(Day Order 1	2.8 Latitude of a place	presentation		Units 1&2
. •	2.9 To find the Hour Angle of a			
to 6)	Body at Rising or Setting Morning and evening stars –			
	Circumpolar stars			
Jan $3 - 6$,	Unit 3	Lecture and	Kumaravelu S.,	Discussion
2024	Refraction	Demonstration	Susheela Kumaravelu,	
	3.1 Astronomical refraction-		Astronomy. Sivakasi:	
(Day Order 1	General effects of refraction		A.Bhaskara Selvan,	
to 4)	3.2 To find the Effect of Refraction on the Right Ascension and		Revised and Enlarged	
	Declination of a Star		Edition 2005, Reprint	
	3.3 Horizontal Refraction – Effect		2009.	
	of Refraction on Dip and			
	Distance of Visible Horizon,			
	Influence of Temperature and			
	Pressure of Atmosphere on Refraction			
	3.4 Simple worked examples			
Jan 8 – 12,	3.1 Shiple worked examples		1	1
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2024				
Jan 13, 2024				
(Day 1)				
Jan 18 -20,	Unit 3 : Geocentric parallax		Kumaravelu S.,	Questioning
2024				6
2024	3.5 Geocentric Parallax – Effects of	Power point	Susheela Kumaravelu,	
(Day Order 4	geocentric parallax	presentation	Susheela Kumaravelu, Astronomy. Sivakasi:	
	geocentric parallax 3.6 Changes in Right Ascension	presentation Video	,	
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(Day Order 4	geocentric parallax 3.6 Changes in Right Ascension and Declination of a Body, Angular Diameter- Geocentric	presentation Video	Astronomy. Sivakasi: A.Bhaskara Selvan,	
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