

Reg. No.:



Name:

University of Kerala

W8063

First Semester FYUGP Degree Examination, December 2025

Multi-Disciplinary course

PHYSICS

UK1MDCPHY105 - ASTRONOMY FROM ANCIENT SKIES TO ALIEN WORLDS

Academic Level: 100-199

2025-Admission

Time: 1 Hour 30 Minutes(90 Mins.)

Max. Marks: 42

**Part A. 6 Marks.Time:6 Minutes.(Cognitive Level:Remember(RE)/Understand(UN)) Objective Type. 1 Mark
Each.Answer all questions**

Qn No.	Question	CL	CO
1	----- served as Tycho Brahe's assistant and later used his data to formulate planetary laws	RE	2
2	The path in which the Sun, Moon, and planets appear to follow through the zodiac is known as --- -----	RE	4
3	Explain Newton unified celestial and terrestrial mechanics.	UN	2
4	Explain the causes for seasons on Earth	UN	4
5	Discuss the reason behind calling certain objects "planetary nebulae."	UN	3
6	<i>The Almagest</i> completed is incentury	UN	1

Part B.8 Marks.Time:24 Minutes.(Cognitive Level:Understand(UN)/Apply(AP))Short Answer. 2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	Explain why Horrocks' observation of the Transit of Venus was significant.	UN	2
8	Write a short note on ancient Egyptian Calendar	UN	1
9	Given your latitude is 20° N, predict the altitude of Polaris above the horizon.	AP	3
10	Apply the concept of latitude to explain why temperatures vary from equator to poles.	AP	4

Part C. 28 Marks.Time:60 Minutes (Cognitive Level:Apply(AP)/Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer:7 marks each.Answer all 4 Questions choosing among options * within each question

Qn No.	Question	CL	CO
11	A) Apply the concept of the ecliptic to explain why certain constellations appear only in specific seasons. OR B) Break down the contributions of Copernicus, Kepler, and Galileo to the overall “Scientific Revolution.”	AP	3, 2
12	A) Compare Horrocks’ astronomical work with that of Tycho Brahe or Kepler. OR B) Compare and contrast the Copernican model with Ptolemy’s geocentric model.	AN	2, 2
13	A) Was the preservation of ancient texts more important than the original research conducted during this period? Defend your answer. OR B) Evaluate the accuracy of early astronomical models compared to modern science.	EV	1, 1
14	A) Create a detailed timeline or conceptual map explaining how timekeeping progressed from apparent solar time to mean solar time and then to standard time, highlighting how each stage improved practical efficiency in society OR B) Construct a written explanation with a diagram that shows how Earth’s axial tilt and orbit around the Sun cause seasonal changes. Include solstices, equinoxes, and the effect on day length and solar altitude at different latitudes	CR	4, 4