

Reg. No.:



Name:

W8096

University of Kerala
First Semester FYUGP Degree Examination, December 2025
Multi Disciplinary Course
PHYSICS
UK1MDCPHY103 PHYSICS IN ARTS AND SPORTS
Academic Level: 100-199
2024 Admission

Time: 1 Hour 30 Minutes

Max. Marks: 42

Part A.

6 Marks. Time: 6 Minutes. (Cognitive Level: Remember/Understand)
Objective Type. 1 Mark Each. Answer All Questions

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
1.	Define unpolarized light	Remember	1
2.	What are the three primary colours used in additive colour mixing?	Remember	2
3.	Explain the principle of superposition in the context of wave interactions	Understand	1
4.	Define torque and provide its formula	Understand	1
5.	How does velocity differ from speed?	Understand	1
6.	Identify the electromagnetic wave with the smallest wavelength and the greatest frequency.	Understand	2

Part B.

8 Marks. Time: 24 Minutes. (Cognitive Level: Understand/Apply) Short Answer. 2 Marks Each. Answer All Questions

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
7.	Explain the concept of Inertia with an example	Understand	1
8.	Explain, how refraction affect the apparent depth of objects submerged in water?	Understand	1
9.	Can you explain the concept of a color triangle and its role in understanding color relationships?	Understand	2
10.	How did Leonardo da Vinci build on the architectural innovations of Brunelleschi?	Understand	2

Part C.

28 Marks. Time: 60 Minutes. (Cognitive Level: Apply/Analyse/Evaluate/Create)

Long Answer. 7 marks each. Answer all 4 Questions, choosing among options* within each question.

Qn. No.	Question	Cognitive Level	Course Outcome (CO)
11.	A. Discuss the different types of electromagnetic radiation, and how are they used in various applications? OR B. Describe the geometric advancements made by Brunelleschi and Leonardo in their architectural work.	Understand	1
12.	A. (a) Explain the concept of additive color mixing, including its primary colors and applications. (3 ½ marks) (b) Describe subtractive color mixing, focusing on its primary colors. (3 ½ marks) OR B. Discuss the role of the following parameters on the quality of a photograph: (a) Exposure time (shutter speed) (2 ½ marks) (b) f-number (aperture) (2 ½ marks) (c) ISO sensitivity (2 marks)	Understand	3
13.	A. (a) Outline the relationship between the Fibonacci series and the Golden Ratio in natural systems. (b) Examine the concept of symmetry in nature and its importance in biological systems. OR B. (a) Explain the key characteristics of projectile motion, and how does it differ from linear motion? (b) Define the range of a projectile and explain the factors that determine it.	Understand	2
14.	A. (a) Explain the Newton's three laws of motion and their significance (b) Define velocity and differentiate it from speed. OR B. Explain the characteristics of a simple harmonic motion? Obtain the relationship between velocity and displacement in simple harmonic motion	Understand	2