Brac University
Department of Computer Science and Engineering

CSE 423: Computer Graphics

Theory Assignment 03 | Full Marks: 25 | Semester: Spring 2025

Answer **all** the following questions.

1.	Define the HLS color model in detail. **[3]** Given that a color has HSV parameters (184°, 0.45, 0.71), convert it to the CMY model. **[7]**
2.	Explain parallel projection with the help of a diagram. **[3]** An XZ projection plane exists at Y = 15. A point, **P** (50, 32, 72) needs to be projected onto this plane orthogonally. Find the transformed coordinate, **P'. [3]** You are teleported into the world of Attack on Titan to watch the Rumbling live. Naturally, you want to capture images of everything. To start, you want to take a picture of Eren's founding titan form. A point, **P** on Eren's face, has a coordinate **(10, 10, -50)**. You have a camera setup that will act as the projection plane here and it is standing at **Z = 100**. Your eye is the COP and is at a height of 20 units from the ground since you are standing on a small platform. You are also standing 20 units away from the setup. The X coordinate of COP is 30. Find the projected coordinate **P'. **You have to show each step** [9]**