Mid

Department of Computer Science & Engineering
University of Asia Pacific (UAP)

Mid Semester Examination | Fall 2018 | 4th Year 1st Semester
Course Code: CSE 425 | Course Title: Computer Graphics | Credits: 3
431

Full Marks: 60 | Duration: 1 Hour

Instructions:
1. There are **Four (4)** Questions. Answer any **Three (3)**. All questions are of equal value. Part marks are shown in the margins.
2. Non-programmable calculators are allowed.

1. a) What is Computer Graphics? What are the goals of Computer Graphics? 4
   b) What is Affine Combination? State the properties of Baricentric Coordinates. 6
   c) The point P (x, y) is coplanar to the triangle defined by three vertices A= (1, 0), B = (0,1), and C= (0,0). Calculate the coordinate of P (x, y) if $\alpha = 0.3, \beta = 0.4$. 10

2. a) Describe the process of **Scaling** of an object which is not at the origin of the frame? 10
   b) If you want to transform **"F"** on the fig. 1a to the **"F"** on the fig 1b, what are the required transformations? Write the Matrices required for such operations. 10

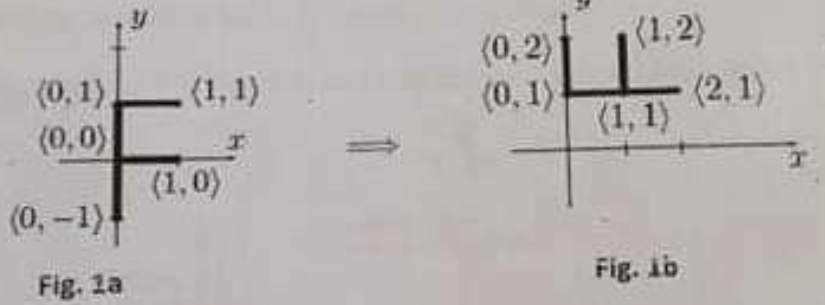

Fig. 1a | Fig. 1b

3. a) Write short notes on the following Open GL command:
   gluLookAt, gluPerspective
   b) Describe the process of Camera Transform.

4. a) Describe the process of clipping a convex polygon in detail.
   b) Write a code segment to clip a line using Cohen-Sutherland algorithm.