Computer graphics – Exam 1; online studies

Name (block letters)   Date 7.09.2020

Please send the work to jza@ii.pw.edu.pl

To pass you must get 31 points

1. (8p.) Discuss chromaticity diagram.

2. (6p.) Sketch Bézier curve defined by control points: $P_0(2,2)$, $P_1(3,5)$, $P_2(6,6)$, $P_3(8,0)$.

3. (6p.) Explain the difference between point light source, directional light source and area light source.

4. (8p.) Discuss the ray tracing method.

5. (8p.) What operations are necessary to obtain an image of green cube iluminated by directional light source on the screen. Observer may be located at any point outside the cube.

6. (8p.) Tell the difference between surface shading and texturing.

7. (8p.) Calculate the pixel value in target image after applying the mask M to the set of pixels P, if

$$
M = \begin{matrix} 1\ 2\ 1 \\ 2\ 4\ 2 \\ 1\ 2\ 1 \end{matrix} \quad \text{and} \quad P = \begin{matrix} 1\ 2\ 3 \\ 3\ 1\ 2 \\ 2\ 2\ 3 \end{matrix}
$$

8. (8p.) Explain the concept of motion capture.