Pop Quiz (Week 7) [10 mins] – 10 pts

Mark all the correct answers.

1) [2] What is the difference between a homography and fundamental matrix?

Homography relates a point to a point while fundamental matrix relates a point to a line. Homography is of rank 3 while fundamental matrix is of rank 2. The homography constitutes a part of the fundamental matrix.

2) [2] The rank of a fundamental matrix is
   a) 1
   b) 2
   c) 3

3) [1] Rectification is a process of
   a) Making the image plane of two cameras in a stereo rig parallel to each other
   b) Making the image plane of two cameras in a stereo rig perpendicular to each other
   c) Make the COP of the two cameras in a stereo rig to be the same

4) [1] The depth at which the image of an object points falls on corresponding points in the two eyes is called __horopter__________________.

5) [1] Consider the optical flow across two images. The epipoles of these two images
   a) Coincide
   b) Are at infinity
   c) Are different
   d) Is called the focus of expansion

6) [1] When we mix blue paint with yellow paint we get green. But when we project blue light on yellow light, we get brown. How do you explain this contradiction?

Additive vs Subtractive color

7) [1+1+1=3] Consider the spectrum of a color given by C.
   a) The hue of C is given by
      i) The area under C
      ii) The weighted mean of the wavelengths weighed by the power
      iii) The standard deviation from the weighted mean
   b) The saturation of C is given by
      i) The area under C
ii) The weighted mean of the wavelengths weighed by the power
   iii) The standard deviation from the weighted mean

c) The intensity of C is given by
   i) The area under C
   ii) The weighted mean of the wavelengths weighed by the power
   iii) The standard deviation from the weighted mean