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**COURSE TITLE:** HUMAN COMPUTER INTERACTION

**LMS ASSIGNMENT 4**

(a) What is color harmony? Discuss why color harmony is important in HCI. (b)Explain the following using examples: (I) Components of Color (II) Primary Colors (III) Secondary Colors (IV) Tertiary Colors (Sorry for the late submission sir.)

**Solution**

1. What Is Color Harmony?

Color harmony refers to the property that certain aesthetically pleasing color combinations have. These combinations create pleasing contrasts and consonances that are said to be harmonious.

2. Why color harmony is important in HCI.

Color schemes have a large impact on human-computer interaction, color can greatly improve user interfaces if used correctly, but can also reduce the functionality of the interface if used inappropriately. Important factors of designing color interfaces include simplicity, consistency, and clarity.

• Simplicity can be achieved by using the four primary colors, which are red, green, yellow, and blue.

• Consistency is also another important factor when designing an interface. Colors should be assigned to a particular type of concept or to help classify information. This technique helps users to retain more information in their short term memory.

• Clarity and the concise use of color aids in helping users identify items more efficiently.

3. Explain the following using examples:

(I) Components of Color: The many colors created through the combination of the three principal color elements known as the three chromatic properties, hue, value, and Chroma(saturation), express the various color tones.

• Hue: Hue is the spectral wavelength composition of a color that produces the perception of being red, yellow, blue, and so on. Examples of hue are: red, orange, yellow, and green, blue, violet.

• Saturation: The saturation of a color is its degree of richness, intensity, purity, or grayness. For example, red and royal blue are more saturated than pink and sky blue, respectively.

• Luminance (intensity, value): the intensity of the light. Value is the relative lightness or darkness of a color. This is what you see when you take a black and white photograph.

(II) Primary Colors: A primary color is one that cannot be created by combining any other color. One of the three colors’, red, yellow, and blue that can be mixed together in different ways to make any other color. The three primary colors are BLUE, RED, and YELLOW.

(III) Secondary Colors:

A color produced by mixing two additive primary colors in equal proportions. The secondary colors are cyan (a mixture of blue and green), magenta (a mixture of blue and red), and yellow (a mixture of green and red)

(IV) Tertiary Colors: A tertiary color or intermediate color is a color made by mixing full saturation of one primary color with half saturation of another primary color and none of a third primary color, in a given color space such as RGB.

• Yellow + Orange = YELLOW/ORANGE

• Red + Orange = RED/ORANGE

• Red + Purple = RED/PURPLE

• Blue + Purple = BLUE/PURPLE

• Blue+ Green = BLUE/GREEN

• Yellow+ Green = YELLOW/GREEN