

M.TECH PRINTING ENGINEERING AND GRAPHIC COMMUNICATION  
 FIRST YEAR SECOND SEMESTER 2017  
 ADVANCED COLORIMETRY

Times : Three hours FULL MARKS 100

ANSWER ANY FIVE QUESTIONS

1. Describe the advantages and disadvantages of chromatic adaptation model. What is the difference of color appearance model with chromatic adaptation model? What are the limitation of CIE LAB model as color appearance model? What are the inputs of CIECAM02? Briefly describe CIECAM02. 2 +4+4+5+ 5=20
2. Draw the block diagram of the hardware components used in a typical digital camera and briefly describe it for color processing. 20
3. Briefly describe capture colorimetry model for an input device. 20
4. Describe how the exposure and white balance is determined. What are the two types of chromatic aberrations and how is it measured? 10+10=20
5. Describe different gamut compression algorithm. 20
6. Draw the flowchart of spatial iCAM and describe it. 20
7. What are the two basic types of noise? What are the factors affecting noise? What is F - stop noise and what is amplitude distribution of noise? Differentiate between subjective quality factor SQF and Modulation transfer function MTF. What does SQF Number mean? 2+5+6+5+2=20
8. Write short note on 4\*5=20
  - a) Demosaicing
  - b) Veiling glare
  - c) Shannon capacity
  - d) Contrast sensitivity function
  - e) CIE Whiteness