22672

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any FIVE of the following:**   **10**

a) State the advantages of Computer colour matching system.

b) Define "Metamerism".

c) State the various factors for the k/s data preparation.

d) State the objective of standard illuminants and give two examples.

e) State the various components of Electromagnetic Spectrum.

f) List the primary colours in additive colour mixing theory.

g) State the formula for the calculation and measurement of total colour difference as per CIE.

Marks

2. **Attempt any THREE of the following:** **12**

a) State the features and limitations of the CIE system.

b) With a neat and labelled sketch, explain the construction and working of Reflectance Spectrophotometer.

c) Differentiate between "Additive and Subtractive" colour mixing.

d) Explain the importance of sample preparation for colour standards.

3. **Attempt any THREE of the following:** **12**

a) Describe the various types of metamerism.

b) Explain the features of Recipe prediction program of the computer colour matching, system.

c) Describe the process for the measurement and calculation of colour difference program.

d) Describe the CIE Lab colour specifications.

4. **Attempt any THREE of the following:** **12**

a) Describe the process of computer colour matching of blended fabrics.

b) Describe the limitations of the computer colour matching system.

c) Distinguish between physical standards and numerical standards.

d) Explain the concept of sample preparation and justify it with an example.

e) Describe the method to analyse the dyes samples to find the colorant strength of dyes.

5. **Attempt any TWO of the following:** **12**

a) With a neat block diagram, explain the function of the various components of the reflectance spectrophotometer.

b) Describe the importance and the application of shade sort program of the computer colour matching system.

c) Describe the parameters to be considered during selection of recipe for colour matching.

Marks

6. **Attempt any TWO of the following:** 12

    a) Describe the process for the measurement of CIE whiteness Index and CIE Yellowness Index.

    b) Describe the process of calibration of spechophotometer and state the main features of modem spectrophotometers.

    c) Describe the process and the application of batch correction program of the computer colour matching system.

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