Seat No. _____

H-003-1016026

B. Sc. (Sem. VI) (CBCS) Examination

April - 2023

Dyes & Intermediates : IC-601

Faculty Code : 003

Subject Code : 1016026

Time : $2\frac{1}{2}$ / Total Marks : **70**

Instructions :

(1) Question paper carries total 5 questions.
(2) All the questions are compulsory and each carries 14 marks.
(3) Draw labelled diagram wherever necessary and assume suitable data.

1 (a) Answer the following questions : **4**

(1) Give one example of a synthetic dye.
(2) "Color is due to structural oscillation of the quinonoid condition" concept was given by _____.
(3) To measure the light fastness properties which scale is applied ?
(4) If an absorption maxima shifts from Violet to Red, it is known as _____ shift.

(b) Answer in brief : (any one out of two) **2**

(1) Give reason : Why acetone is colorless while biacetyl is yellow in colour.
(2) Define : (1) Disperse dye (2) Reactive dye

(c) Answer in detail : (any one out of two) **3**

(1) Explain : (1) Acid dye (2) Basic dye
(2) Give reason : Why p-aminoazobenzene is yellow but in acidic medium it becomes violet ?

(d) Write a note on : (any one out of two) **5**

(1) Discuss : Valence Bond Theory in detail.
(2) Explain : Natural dyes in detail.

2 (a) Answer the following questions : **4**

(1) Bromamine dye is immediately available for dyeing of _____.

(2) _____ is used for the quantitative estimation of Nitrogenous compounds.

(3) Give IUPAC name of LG-acid.

(4) Anthraquinone is produce by oxidation of _____.

(b) Answer in brief : (any one out of two) **2**

(1) Explain in brief : R_f value.

(2) Give synthesis of Chicago acid.

(c) Answer in detail : (any one out of two) **3**

(1) Discuss : Chlorination reaction of benzene with schematic diagram.

(2) Write a short note on Schaffer's acid.

(d) Write a note on : (any one out of two) **5**

(1) Discuss in detail : Lunge Nitrometer.

(2) Explain : Manufacturing of H-acid with schematic diagram in detail.

3 (a) Answer the following questions : **4**

(1) Brilliant yellow dye is also known as _____ dye.

(2) The dye contains -N=N- chromophoric group is known as _____.

(3) In sub-classes of azo dye M stands for _____.

(4) Which is the coupling compound in Butter yellow dye ?

(b) Answer in brief : (any one out of two) **2**

(1) Give a synthesis for Aniline yellow.

(2) Write a short note on direct method for diazotization.

(c) Answer in detail : (any one out of two) **3**

(1) Explain : Special method of diazotization in brief.

(2) Give the synthesis of Rosanthrene-O.

(d) Write a note on : (any one out of two) **5**

(1) Explain : Manufacturing of Brilliant Yellow dye with neat and clean diagram.

(2) Give an account of Mono azo dyes with example.

4 (a) Answer the following questions : **4**

(1) In acidic condition, Alkylation reaction is done in _____.

(2) Sedimentation is also known as _____.

(3) Disperse dye is used for dyeing of _____.

(4) What is the limitation of poor plant layout ?

(b) Answer in brief : (any one out of two) **2**

(1) Enlist any four properties of Disperse dye.

(2) Enlist various methods for controlling gaseous emission.

(c) Answer in detail : (any one out of two) **3**

(1) Write a short note on various effluent treatment plant equipments.

(2) Discuss in brief : Environmental pollution and effluent treatment.

(d) Write a note on : (any one out of two) **5**

(1) Discuss : Various limitations of poor plant layout in detail.

(2) Explain in detail : Manufacturing of Disperse Red-4 dye with schematic diagram.

5 (a) Answer the following questions : **4**

(1) Give a full form of I.C.I.

(2) Indanthrone blue dye is also known as _____ dye.

(3) Who defined Reactive dye ?

(4) The stability of reactive dye is due to Covalent bond. (True/False)

(b) Answer in brief : (any one out of two) **2**

(1) Give a difference between Reactive dye and direct dye in brief.

(2) Write a short note on Reactive dye.

(c) Answer in detail : (any one out of two) **3**

(1) Explain : Manufacturing of Thioindigo dye in brief.

(2) Discuss : Various dyeing process in brief.

(d) Write a note on : (any one out of two) **5**

(1) Explain in detail : Manufacturing of Indanthrene Yellow-4GK.

(2) Discus : Manufacturing of Reactive Red dye in detail.
