



RX-003-1016026

Seat No. _____

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

March - 2019

IC - 601 : Dyes & Intermediates

Faculty Code : 003

Subject Code : 1016026

Time : $2\frac{1}{2}$ Hours]

[Total Marks : **70**

- Instructions :** (1) Question paper carries total 5 questions.
(2) All the questions are compulsory and carry 14 marks each.
(3) Draw labeled diagram wherever necessary.
(4) Assume suitable data.

- 1 (A) Answer the following questions : 4**
- (1) Cochineal is an example of _____ dye.
 - (2) Valence bond theory is also known as _____
 - (3) Alizarin is the oldest coloring material known. True/False?
 - (4) What is white dye?
- (B) Answer in brief : (Any One out of Two) 2**
- (1) Explain Mordant dye in brief.
 - (2) Discuss Pigment with example.
- (C) Answer in detail : (Any One out of Two) 3**
- (1) Discuss Armstrong's theory in brief.
 - (2) Write a short note on acid dye.

- (D) Write a note on : (Any **One** out of Two) 5
- (1) Explain Witt's theory in detail.
 - (2) Discuss molecular orbital theory in detail.
- 2** (A) Answer the following questions : 4
- (1) Schaeffer's acid is also known as _____
 - (2) G-acid is synthesized using _____ as raw material.
 - (3) Give full form of HPLC.
 - (4) Silica gel can be used as mobile phase in chromatography. True/False?
- (B) Answer in brief : (Any **One** out of Two) 2
- (1) Elaborate the word 'Chromatography'.
 - (2) Give synthesis of Anthraquinone from phthalic anhydride.
- (C) Answer in detail : (Any **One** out of Two) 3
- (1) Give synthesis of Chicago acid.
 - (2) Write applications of TLC.
- (D) Write a note on : (Any **One** out of Two) 5
- (1) Discuss synthesis of H-acid with diagram.
 - (2) Discuss Lung nitro meter with neat diagram.
- 3** (A) Answer the following questions : 4
- (1) In azo dye, D stands for what?
 - (2) $A \rightarrow Z \leftarrow A'$ is a type of bis azo dye. True/False?
 - (3) Which chromophoric group is present in azo dye?
 - (4) Give one example of mono azo dye.

- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Give synthesis of Chrome Blue Black R.
 - (2) Give synthesis of Crysodine G.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Give synthesis of Congo red.
 - (2) Write synthesis of Butter yellow.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Discuss preparation of Direct Black EW with diagram.
 - (2) Discuss various methods of diazotization.
- 4 (A) Answer the following questions : **4**
- (1) _____ dyes are low molecular weight derivatives of azo, anthraquinone and other compounds.
 - (2) Sedimentation is an example of _____ treatment.
 - (3) With increase in temperature, the effect of dispersing agent _____ .
 - (4) Fabric filter is a type of air pollution control equipment. True/False?
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) What is plant layout?
 - (2) Draw structure of Blancophor R.
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Give limitations of poor plant layout.
 - (2) Enlist various air pollution control equipments.

- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Give an account of optical whitener and fluorescent brightner.
 - (2) Write a detailed note on effluent treatment.
- 5** (A) Answer the following questions : **4**
- (1) Write two disadvantages of Anthraquinone vat dye.
 - (2) Who defined reactive dye?
 - (3) Indanthrone blue is synthesized from 2-aminoanthraquinone. True/False?
 - (4) Write one advantage of reactive dye over vat dye.
- (B) Answer in brief : (Any **One** out of Two) **2**
- (1) Give synthesis of Procion Brilliant Red 5B.
 - (2) What is thioindigo dye?
- (C) Answer in detail : (Any **One** out of Two) **3**
- (1) Give synthesis of Pyranthrone.
 - (2) Give synthesis of Indanthrene Brown RRD.
- (D) Write a note on : (Any **One** out of Two) **5**
- (1) Explain manufacturing process of Indanthrene Rubene-R.
 - (2) Give synthesis of :
 - (i) Procion Blue HB
 - (ii) Vat Blue 4