

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-III (New) EXAMINATION – WINTER 2018****Subject Code: 2133604****Date: 28/11/2018****Subject Name: Chemistry of Intermediates & Colorants-I(Elective-I)****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
Q.1	(a) Give the difference between dyes & pigments.	03
	(b) What is Coal? Explain carbonization of coal.	04
	(c) Give small scale preparation of benzene with suitable reactions?	07
Q.2	(a) Discuss the effect of substituents on the rate of Electrophilic Aromatic Substitution Reaction.	03
	(b) Explain the Synthesis of typical dyestuff intermediates based on benzene.	04
	(c) Explain the mechanism of Electrophilic Aromatic Substitution Reaction.	07
OR		
	(c) Explain the mechanism of Friedel Craft Alkylation involving carbocation rearrangement.	07
Q.3	(a) Discuss the Linear free energy relationship in terms of Hammett Substituent Constant.	03
	(b) Elaborate the mechanism of bromination of benzene.	04
	(c) Explain the following three types of forces between organic molecules depend on the functional group present in order to increasing the strength:	07
	(i) Van der Waals forces (London Dispersion)	
	(ii) Dipole-dipole interactions	
	(iii) Hydrogen bonding	
OR		
Q.3	(a) What is Pitch? What are the applications of pitch?	03
	(b) Discuss the Influence of Functional Groups on Reactivity of organic molecule.	04
	(c) Explain the mechanism of Nucleophilic Aromatic Substitution Reaction.	07
Q.4	(a) Write a short note on: Coal Tar Primaries.	03
	(b) Write a short note on: BONA Acids.	04
	(c) Give the synthesis of Amino G-acid and Amino J-acid.	07
OR		
Q.4	(a) Write a short note on: Anthracene	03
	(b) Give the reactions of anthraquinone?	04
	(c) Explain Synthesis of Naphthol sulphonic acid with suitable chemical reaction?	07
Q.5	(a) Write a short note on : Onanthraquinone	03
	(b) What is meant by active methylene compound? Discuss about Enols with acid catalyzed enolization reaction scheme.	04
	(c) Explain reversible conversion of a naphthol to a naphthylamine in the presence of ammonia and sodium bisulfite.	07

OR

- Q.5** (a) Write a note on: Evolution of dyestuff chemistry. **03**
(b) Discuss the Michel Addition reactions of active methylene enolates. **04**
(c) Explain Bucherer Reaction with suitable chemical reaction? **07**
