

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V(New) • EXAMINATION – WINTER 2016

Subject Code:2153604

Date:22/11/2016

Subject Name:Technology of Intermediate & Colorants(Department Elective- III)

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	Short Questions	14
	1 What concentration of sulfuric acid is available commercially?	
	2 What reagents can be used for neutralization of spent acid?	
	3 Why Friedel-Craft reaction only happens on active rings?	
	4 What is typical concentration of HCl available in market?	
	5 Name different catalysts used for hydrogenation.	
	6 What are different reagent used for diazotization reaction?	
	7 What is DVS ratio?	
	8 What is MSDS?	
	9 Why “etching” is carried out on iron before carrying out Bechamp reduction?	
	10 Write ascending order of reactivity of halogens.	
	11 Dilute nitric acid can be used for which type of reactions?	
	12 What are different reagents used for ammonolysis?	
	13 Write full form and the function of S.I. paper	
	14 What is E-factor?	
Q.2	(a) Write synthesis of following molecules	03
	1) Hydroquinone	
	2) Resorcinol	
	3) Catechol	
	(b) What are different methods for synthesis of phenol? Which method is used most widely?	04
	(c) Write a short note on sulfonation as a unit process	07
	OR	
	(c) Enlist different sulfonating agents and write advantages of each.	07
Q.3	(a) Write synthesis of naphthionic acid	03
	(b) Write a short note on Alkali fusion	04
	(c) Write a short note on Friedel-Craft reaction	07
	OR	
Q.3	(a) Write synthesis of BON-acid	03
	(b) Explain liming process in detail	04
	(c) Describe chemistry and technology related to ammonolysis.	07

- Q.4** (a) What is oxidation reaction? What are different oxidizing reagents used? **03**
(b) Write synthesis of following molecules **04**
 1) 2-naphthol
 2) J-acid
 3) Schaefer's acid
(c) What are different methods of reduction? Describe each method in detail. **07**

OR

- Q.4** (a) What are different types of agitators/stirrers **03**
(b) What are different types of heating and cooling media? **04**
(c) Write down different halogenation reactions and reagents for each type of reaction. **07**
- Q.5** (a) Write advantages and disadvantages for continuous processes. **03**
(b) Write advantages and disadvantages for batch processes. **04**
(c) Write down different materials used for fabrication of reactors. What are different types of Stainless steel? **07**

OR

- Q.5** (a) Write a short note on alkaline coupling. **03**
(b) Write down different methods of diazotization. **04**
(c) How H-acid is synthesized? Give reactions for synthesis. **07**
