## **GUJARAT TECHNOLOGICAL UNIVERSITY** BE - SEMESTER-VII EXAMINATION – WINTER 2015

Subject Code: 173605Date:04/12/2015Subject Name: Environmental Aspects of Dyes and Pigment IndustryTime: 10:30am to 1:00pmInstructions:

1. Attempt all questions.

industry.

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.

## Q.1 (a) Briefly explain extraction and gravitational separation. 07

## (b) Briefly explain tubular heat exchanger.

- Q.2 (a) What is adsorption? Which is the most widely used adsorbent in dyes and 07 pigments industry? How commercially it can be prepared? Give the name of four different types of activated carbon.
  - (b) Draw the structure of Acid Blue 277 and from the adsorption isotherm of four 07 different activated carbons, prove which is the most efficient for adsorption of dye.

OR

- (b) Briefly explain Toxic Release Inventory (TRI) for dyes and pigments industry. 07
- Q.3 (a) Write down chemical and photochemical reaction of Oxygen and Ozone in 07 atmosphere.
  - (b) Explain Monitoring methods of Carbon Monoxide in dyes and pigments 07 industries.

OR

		θ <b>κ</b>	
Q.3	<b>(a)</b>	Write a short note on Classical Smog.	07
	<b>(b)</b>	Write a short note on Control of Air Pollution.	07
Q.4	<b>(a)</b>	Write a short note on 'DO'.	07
	<b>(b)</b>	Write a short note on Hardness of Water.	07
		OR	
Q.4	<b>(a)</b>	Write a brief note on Chemical Oxygen Demand.	07
	<b>(b</b> )	Write a brief note on sources of Mercury in Aquatic System and its Toxic Effects.	07
Q.5	<b>(a)</b>	Briefly explain the term 'OSHA'.	07
	<b>(b)</b>	Briefly explain the concept on 'Management of Environment'.	07
		OR	
Q.5	<b>(a)</b>	Briefly explain Management of Hazardous waste.	07
	(b)	Briefly explain 'Subjectivity in risk perception and the problem of balance' as one of the principle of environmental affairs within the dyes and pigments	07

\*\*\*\*\*

07