Seat No.:	Enrolment No.

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

**BE - SEMESTER-V • EXAMINATION - SUMMER • 2015** 

Date: 11/05/2015

Subject Code: 152803

	-	Name: Analytical Textile Chemistry - I 2.30pm-05.00pm Total Marks:	<b>70</b>
	truction 1. 2.	ns: Attempt all questions.	
Q.1	(a)     i.     ii.     iii.     iv.	Answer the following OBJECTIVE questions:  Name any two indicators used to measure alkalinity of water samples.  COD value of any effluent sample is always than its BOD value.  Efficiency of soap to form leather is reduced by use of hard water, true or false?  Ultimate analysis of fuel sample resembles qualitative analysis of substances, true or false?  1.0 mg colour is equivalent to hazen unit colour.  Isolation of pure compound can be done using chromatography techniques, true or false?	07
	vii. (b)	Free acidity in oil is indicated by number.  Describe the principle, construction and working of yield value of any lubricant sample with a neat diagram.	07
Q.2	(a)	Discuss the significance of volatile matter and ash content of coal with procedure to determine the same.	07
	<b>(b)</b>	Elucidate the principle, test method and evaluation scheme to fine hardness of water with suitable calculations.	07
	<b>(b)</b>	OR  Enlist the problems arise due to excessive iron content in water sample. Write the suitable process to evaluate the same.	07
Q.3	(a) (b)	Write a detailed note on glass electrode with neat sketch.  Give various applications and limitations of IR spectroscopy with involved principle.	07 07
Q.3	(a)	OR  Bright out the highlights on conductance spectra to evaluate end point of titrations for combination of different types of acids and bases.	10
	<b>(b)</b>	Discuss the importance of water analysis in Textile Processing.	04
Q.4	(a)	Discuss the principle, test method and evaluation technique for silica content of water sample.	07
	<b>(b)</b>	Discuss the principle and test procedure to obtain dissolved oxygen present in water sample.	07
Q.4	(a)	OR Discuss the principle, test method and evaluation technique for nitrate content of water sample.	07
	<b>(b)</b>	Enlist the applications of spectrophotometer in textile analysis. Explain about different components of the same.	07
Q.5	(a)	State the principle of chromatography. Depict about paper chromatography in depth.	10

(b) Give the titration method to determine purity of Sodium hypochlorite with appropriate calculations.

## OR

- Q.5 (a) Describe the principle, working and construction of Redwood viscometers with suitable calculations associated.
  - (b) Give the significance and method to find sulphur content of coal sample. 04

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