

SUBJECT CODE NO:- K-295
FACULTY OF ENGINEERING AND TECHNOLOGY
F. E. Examination Oct/Nov 2016
Engineering Chemistry & Environmental Sci.
(Old)

[Time: Two Hours]

[Max. Marks:40]

Please check whether you have got the right question paper.

N.B

- i) Q. No. 1 is compulsory.
- ii) Solve any two questions from remaining questions.
- iii) Figures to the right indicate full marks.
- iv) Use of non-programmable calculator is allowed.

Q.1	Answer the following questions. (<u>any five</u>)	10
	a) Explain carbonate conditioning used in internal treatment of water.	
	b) Define alkalinity. Give its unit.	
	c) Give two reactions of corrossions of boiler due to acids.	
	d) Give advantages of liquid fuels over solid fuels.	
	e) Coal containing 3 percentage hydrogen have HCV 7000.00. Calculate its NCV.	
	f) Why acid correction is subtracted in determination of calorific value by bomb calorimeter?	
	g) How polymers are classified based on thermal response?	
	h) Give two examples of condensation polymers.	
	i) Give any four names of common ingredients used in compounding of plastics?	
Q.2	a) Explain with reactions deionization process of water softening.	06
	b) Define priming and foaming. Give its disadvantage.	05
	c) Water containing 4.75 mg CaCl ₂ have total hardness 14.00ppm. Some other salts of bicarbonates are dissolved in water. Calculate hardness due to bicarbonates M. wt. of CaCl ₂ is 111.	04
Q.3	a) Give types of analysis of coal. How is proximate analysis of coal done?	06
	b) How fractions of crude oil are separated by fractional distillation process?	05
	c) What are advantages of CNG?	04
Q.4	a) Give preparation, properties and uses of polyurathens.	06
	b) How is rubber classified? How natural rubber is obtained?	05
	c) Give applications of vulcanised rubbers.	04
Q.5	a) How desalination of brakish water is done by super filtration?	05
	b) Give applications of calorimeter.	04
	c) Explain carbonate theory of origin of petroleum oil.	03
	d) Give applications of butyl rubber.	03