THE TEXTILE ASSOCIATION (INDIA)  
G.M.T.A. (REVISED) EXAMINATION – 2013  
SECTION-A PAPER-II (A-2)  
ENGINEERING CHEMISTRY  

Date: 24.12.2013  
Marks : 100  
Time: 10 am to 1 pm  

Instructions:  
1. Attempt six questions out of which Q.1 is compulsory  
2. Answer each next main question on new page  
3. Figure to the right indicate full marks  
4. Illustrate your answer with sketches and flow chart wherever necessary  
5. Use of non programmable electronic pocket calculator permissible.  
6. Mobile and any other communication devices are not allowed in exam hall.  
7. Assume suitable data wherever necessary.  

Q.1. Attempt any five of the following:  
   (20)  
i. What is hardness of water? Explain drawbacks of hard water.  
ii. What is corrosion? Explain wet corrosion.  
iii. Differentiate between addition and condensation polymerization  
iv. What is carbohydrate?  
v. Explain use of surfactant in textile industry.  
vi. Write a short note on fuels.  

Q.2. Explain use of carbohydrate in textile? Explain reaction enzymes on starch and use of  
enzyme in textile industry.  

(16)  

Q.3. Write a short notes on the following:  
i. Classification of protein ii. Classify fuels.  
iii. Types of hardness iv. Copolymer and Homopolymer  

(16)  

Q.4. Discuss types of detergents. What is HLB value? Explain any one method of  
preparation of soap  

(16)  

Q.5. a. Calculate the total hardness of a sample of water in 0Fr and 0Cl having the following  
salts CaCl2 = 11.1mg/l, Mg(HCO3)2 = 7.3mg/l, Ca(HCO3)2 = 5.1mg/l,  
Mg(NO3)2 = 14.8mg/l.  

(04)  
b. Define alloy. Classify alloy and mention the properties of alloys  

(04)  
c. Define plastic. How can they be classified? Give any four differences between thermo  
and thermosetting plastics.  

(08)  

Q.6. a. Write a note on i) Alloy  ii) Properties of Polyester and nylon  

(08)  
b. What is polymer? Explain types of polymerization  

(08)  

Q.7. a. What are Insulators? Classify Insulators. And explain any one Insulator.  

(08)  
b. What is chemical composition of cement? Explain in brief different types of  
cement manufacturing process.  

(08)  

Q.8. a. What are renewable energy sources? Explain its importance in India and also  
explain how we can use it in textile.  

(16)  

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