THE TEXTILE ASSOCIATION (INDIA)  
G.M.T.A. (REVISED) EXAMINATION - 2017  
SECTION C PAPER -C.2  
POLYMER TECHNOLOGY  

Date: 24.12.2017  Marks: 100  Time: 10.00 a.m. to 01.00 p.m.  

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 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  

a. What is polymer? Explain properties of polymer required to be a textile fibre.  
b. What is polymerization reaction? Classify polymerization reaction.  
c. Explain use of initiator in polymerization reaction.  
d. What are polyfunctional polymers??  
e. Explain glass transition temperature of polymer.  
f. Explain importance of polymerization reaction in textile Industry.  

Q.2 Explain kinetics of polymerization reaction. Describe the parameters having their bearing on  
Kinetics of polymerization  

Q.3 Write a short note on  
a) Types of polymers  
b) Use of acrylic polymer in Textile  
c) Nylon 6.6  
d) Graft Polymerization  

Q.4 a) What is degree of polymer degradation? Explain its importance  
b) Write a note on ‘Thermal Characterization of polymers’.  

Q.5 a) Discuss the weight average and number average molecular weight distribution  
of Polymer.  
b) Explain polymer degradation.  

Q.6 What is Rheology of polymeric solution?? Explain it with reference to viscous, plastic and  
visco-elastic flow polymers  

Q.7 a) Explain tacticity of polymer.  
b) Why analysis of ageing of polymers is necessary?  
c) Explain use of inhibitors and antioxidants polymer industry?  

Q.8 a) Explain manufacturing process of polyester.  
b) Explain the importance of recycling of polymer.  
c) What is conducting polymer? Explain its use in industry.