THE TEXTILE ASSOCIATION (INDIA)
G.M.T.A. (REVISED) EXAMINATION - 2016
SECTION C PAPER - C.2
POLYMER TECHNOLOGY

Date: 24.12.2016
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 its types.
b. What is glass transition temperature of polymer? Explain its importance.
c. Explain use of initiator in polymerization reaction.
d. What is di-functional monomer?
e. Explain degree of polymerization.
f. Explain importance of antioxidant in polymer industry.

Q. 2 What is rheology of polymeric solution? Explain it with viscous, plastic and visco elastic flow diagram.

Q. 3 Write a short note on
   a) Graft polymerization
   b) Use of Polyester in Textile
   c) Nylon 6
   d) Polymerization Reaction

Q. 4 a) What is polymer degradation? Explain various types of polymer degradation
   b) Discuss how time and temperature of polymer reaction effects on properties of Polymer.

Q. 5 a) What is weight average and number average molecular weight distribution of polymer?
   b) Discuss thermal characterization of polymer.

Q. 6 What is tacticity? Explain syndio, iso and atactic polymers

Q. 7 a) Explain importance of polymerization in enhancing properties of textile fibre.
   b) Explain ring opening polymerization process.
   c) What are the properties required for polymer to become textile fibre?

Q. 8 a) Explain vinyl polymerization reaction. Give example of Vinyl polymers.
   b) What is recycling of polymer? How is it important for environment?
   c) How is the inhibitor control polymer degradation?