TTL 866 Fuuctional and High Performance Textiles
Major Exam

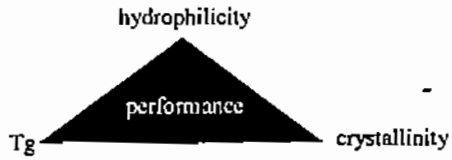
29th November 2006
Max Marks 30
Time 2 hrs

PART A

Q.1. a. How is nanosilver activity different than other antimicrobial agents? 2
b. How would you get a polyester fabric which can bind silver, copper and zinc? 2

Q.3. a. What are the requirements of a wound dressings for proper wound healing? 2
b. How would you design antimicrobial chitosan based porous wound dressing? 2

Q.4. a. Discuss advantages and disadvantages of blending operations over chemical modifications for suture development? 2
b. Discuss the meaning of the following sketch with respect to biodegradable suture. Specify. 2



Q.5. Answer following in short.
a. What is the difference between medical textiles and biotextiles? 1
b. What are the requirements and functions of a scaffold? 1
c. What is the function of Neutrophils? 1
d. Vicryl 1
e. Nacrosis 1
f. Biocompatibility 1
g. Inflammation 1
h. Hydrogel 1

PART B

Que 6. (a) By what mechanism does Borax/Boric Acid treatment of cotton textiles imparts it the flame retardant property ? (2)
(b) Discuss the material selection and the criteria used for making a FR garment for a military personnel / fire fighter / person working in a foundary . (3)

Que 7. (a) Out of Polyester/Cotton which fiber will you prefer for making a UV protective garment and why? How can you further enhance its functional property? (2)
(b) How does fabric construction affect the ballistic protection of textiles? Compare Kevlar vs Speetra fiber for such an application. (3)