B. Tech.

(SEM. VIII) EXAMINATION, 2006-07
MAN MADE FIBRE YARN TECHNOLOGY

Time : 3 Hours] [Total Marks : 100

Note : Attempt all questions. All questions carry equal marks.

1. Attempt any two parts of the following:
   (a) With schematic diagram explain a tow conversion process by stretch-breaking method.
   (b) With suitable curves explain in details the effect of heater temperature and stretch ratio on characteristics of fibre and yarn in Turbo stapler.
   (c) Describe the importance of different sections of a Turbo Stapler.

2. Attempt any two parts of the following:-
   (a) Describe with a line diagram the working principle of Courtaulds design tow-to-top converter.
   (b) Describe with a line diagram the working principle of a direct spinner for converting tow-to-yarn.
   (c) How the metallic fibres are different from the non-metallic manmade fibres with respect to their properties? Describe in details the different end uses of metallic fibres.

V-6553] 1 [Contd...
3. Attempt any two parts of the following:-
   (a) Explain the principle of false-twist texturing. Describe with neat diagram the false-twist texturing technique and its relative merits and demerits over other techniques.
   (b) Describe in details the impact of various factors on the stretch characteristics of false-twist textured yarns.
   (c) With neat diagram describe in details the principle of stuffer box crimping. What are the factors which affect the properties of stuffer box crimped yarns?

4. Attempt any two parts of the following:-
   (a) What do you mean by the term air buckling? With neat diagram describe in details the principle of air buckling.
   (b) Describe the method of producing bulked yarn by knit-de-knit method. How the properties of knit-de-knit bulked yarns are different from other type of bulked yarns?
   (c) Describe in details the effect of various raw material and process parameters on the properties of air textured yarns.

5. Attempt any two parts of the following:-
   (a) Describe in details the effect of proportion of unrelaxed fibre on the various properties of acrylic bulked yarns.
   (b) Describe in details the precautions to be taken in each stages of production of acrylic bulked yarn. Also mention the applications of these yarns.
   (c) What do you mean by draw texturing? Draw the neat schematic diagrams of simultaneous and sequential draw texturing processes and explain their relative merits and demerits.