B. TECH.

(SEM. VIII) EXAMINATION, 2006-07

ADVANCE FABRIC MANUFACTURING

Time : 3 Hours] [Total Marks : 100

1 Answer any two parts of the followings:
   (a) Classify rapier looms and discuss the scope of such looms in carpet weaving. Which type of rapier loom is most suitable for carpet weaving and why?
   (b) Compare loop transfer and tip transfer and describe one such transfer technique.
   (c) Describe the cloth take up mechanism found in any rapier loom.

2 Answer any two parts of the followings:
   (a) Discuss the scopes and growth rate of non-woven industry and write down the names of the end uses where non-wovens can be used.
   (b) What are parallel laid, cross laid, random laid and vertical laid webs? Describe one technique for producing random laid web.
   (c) Write down the physical and chemical properties which are considered during selection of a binder for non-woven production. Describe one method of binder application in non-woven manufacturing.
3 Answer any **two** parts of the followings:
(a) Describe the needle punching technique for producing non-wovens. What are the latest developments in needle punching?
(b) Discuss the effects of various process variables on the properties of non-wovens. Show the different parts of a needle commonly used in needle punching machine.
(c) What are spun bonded and split film fabrics? Describe the process of making spun bonded fabrics.

4 Answer any **four** parts of the followings:
(a) Define knitting and classify knitting machines in detail.
(b) Show the different stages of loop formation using latch needle.
(c) Name the basic weft knit structures and write down the features of plain knitting and plain knit structure.
(d) Compare rib and interlock knitting.
(e) What are floating (float loop) and tucking (tuck loop)? Write down the names of the attachments available for the said purpose.
(f) Name the different types of needles used in knitting and describe one such needle.

5 Answer any **four** of the followings:
(a) Compare weft and warp knitting
(b) Differentiate Tricot and Raschel type warp knitting machines.
(c) What are underlap and overlap? Explain how swinging and hogging motions produce overlap and underlap.
(d) What are needlebar and guide bar and what function they perform in warp knitting?

(e) Name a few warp knitted structures and show the stitch notation of any one warp knit structure.

(f) What are course, wale and stitch density in knitted structures? Name the various parameters of a knitted fabric which are needed in specifying the same.