Roll No. | | | | | | | | | | | | |

Total No. of Pages : 02

Total No. of Questions : 08

M.Tech.(Textile) (Sem.–4)

KNITTING AND NONWOVEN TECHNOLOGIES

Subject Code : MTTE-401

Paper ID : [72683]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :

1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

Q.1 a) Discuss the relation between geometry and properties of a weft knitted loop. (10)

b) Describe the developments in flat knitting machines. (10)

Q.2 a) How are rib fabrics manufactured? Give their properties and uses. (10)

b) Explain the knitting cycle of Raschel knitting machine with neat diagrams (10)

Q.3 a) Discuss the effect of yarn quality parameters and process parameters on the yarn tension in the knitting zone. (10)

b) What is spirality? What are the factors affecting spirality in the knitted structure? How can it be reduced? (10)

Q.4 a) Write a note about the high speed knitting cams. What is the difference between the performance of linear and non linear knitting cams? (10)

b) Calculate the punch density (punches/cm^2) of a fabric produced after double passage on a needle punching machine having 600 strokes/min & a delivery of 1.5m/min. Number of needles per meter width of the needle board is 1900. (5)

c) Illustrate the effect of punch density on the fabric thermal resistance and tenacity? (5)

Q.5 a) Derive the expression for different forces acting on the needle butt while ascending and descending the cam track during knitting. (10)

b) Discuss the effect of web orientation, needle punch density & depth of penetration on the tensile properties of needlepunched fabrics. (10)

Q.6 What do you understand by Spacer fabrics? Describe the knitting and nonwoven techniques for production of spacer fabrics and their applications. (20)

Q.7 What do you understand by oblique needlepunching. Describe the various methods of oblique needlepunching. How H1 technology of Fehrer makes a difference in needlepunching? (20)

Q.8 a) Describe the melt blowing technology and the important parameters that affect its fabric properties. (10)

b) Explain the wet laying technique of nonwoven fabric manufacture and its applications. (10)