MOL-12236 Materials Processing 2

Exam 11.12.2015

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Read the instructions carefully:

- no literature or calculators allowed
- student must answer five (5) questions (no more, no less)
- write answers 1 and 2 on the paper sheet #1, answers 3 and 4 on the paper sheet #2, and answers 5 and 6 on the paper sheet #3
- answers are marked 0-10 points
- student must get at least two (2) points from each questions and totally at least 25 points to pass the exam
- vastaukset voi kirjoittaa myös suomeksi

Questions:

1. Explain shortly what the following terms mean:
   a. circular knitting machine
   b. flat bed knitting machine
   c. plied yarn
   d. rotary screen printing
   e. transfer printing

2. Name and explain the manufacturing steps of man-made fibers. How each step effects on fiber properties?

3. Explain differences between mechanical and chemical pulping processes

4. Multilayer product manufacturing techniques (typically wound to rolls for packaging purposes)

5. What material properties have to be considered when polymers are processed and why?

6. What are the two most suitable composite processing methods for high performance composites? Explain the basics of the processes briefly. Why the properties are better compared to the other methods?