80151 SIGNAL PROCESSORS

Exam Dec. 18, 2000

1. Explain shortly the following terms and abbreviations:
   a) load-store architecture
   b) law of conservation of bits
   c) 2x clock
   d) ISS
   e) truncation of magnitude
   f) NaN

2. Explain the relation between the following characteristics of DSP systems: algorithm, sample rate, clock rate, and numeric representation. What is defined by each of them, what effect they for the final implementation.

3. Describe the meaning of the shifters (shifter A, B, and C) in the architecture in the figure. When and for what purpose each shifter is used?

4. Describe the principal differencies of the following cache memories: repeat buffer, single-sector cache, cache based on multiple independent sectors?