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Electrical Electronics Engineering

EEE 471

1. Explain briefly the Signal Processing and Interfacing

techniques in measuring Instrumentation

2. Explain the expert System Instrumentation

Answers

Interfacing technique: Interface is the path for communication between two components especially between micro controllers and Interfacing peripherals method used to transfer Include I/O Interface

Signal Processing: take real world signals like voice audio video temperature, pressure or position that have been digitized and then mathematically manipulate them in the real world analog products detect signals such as sound light temperature or pressure and manipulate them. mathematical methods applied include

• Differential equations

• Recurrence relation

- Transform theory
- Time frequency
- Spectral estimation

• Expert system: Expert systems use a knowledge base of a particular domain and bring that knowledge to bear on the facts of the particular situation at hand.

The knowledge base of an ES also contains heuristic knowledge rules of thumb used by human experts who work in the domain.

Examples of expert system

- MYCIN
- DENDRAL
- PXDES