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1. Explain briefly the Signal processing and interfacing techniques in measuring instruments

ANS: Taking for example a sensor as a measuring instrument. Signal processing is an electrical engineering subfield that focuses on analysing, modifying, and synthesizing signals such as sound, images, and scientific measurements.

CATEGORIES OF SIGNAL PROCESSING

ANALOG

CONTINOUS AND DISCRETE TIME

DIGITAL

NON LINEAR.

2. Explain briefly the expert system instrumentation

ANS:  an expert system is a computer system emulating the decision-making ability of a human expert. Expert systems are designed to solve complex problems by reasoning through bodies of knowledge.

Components of Expert Systems

* Knowledge Base: Knowledge is required to exhibit intelligence. The success of any ES majorly depends upon the collection of highly accurate and precise knowledge
* Inference Engine: Use of efficient procedures and rules by the Inference Engine is essential in deducting a correct, flawless solution. In case of knowledge-based ES, the Inference Engine acquires and manipulates the knowledge from the knowledge base to arrive at a particular solution.
* User Interface: User interface provides interaction between user of the ES and the ES itself. It is generally Natural Language Processing so as to be used by the user who is well-versed in the task domain. The user of the ES need not be necessarily an expert in Artificial Intelligence.