

EKPO, DEBORAH JOSEPH
17/ENG02/019
COMPUTER ENGINEERING
EEE 471 - Assignment

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

Signal processing condenses measurements to extract information about some distant state of nature. In the electrical engineering field, it is often restricted to digitization, sampling, filtering and spectral estimation. Signal processing is usually partitioned to combine signals across space first, then time.

The linking of devices to allow designing the output and input configurations of two electronic devices to enable them to ^{function} work together, is known as signal interfacing.

These techniques can be used to improve transmission, storage efficiency and subjective quality at the output of a measuring instrument. Some of these techniques include:

- Non-Linear

This involves analysis and processing of signals produced from non-linear systems and can exist in time, frequency or spatio-temporal domains. They can produce highly complex behaviours including harmonics and sub-harmonics.

- Digital

Is the processing of digitized discrete-time sampled signals. Processing is done by general-purpose computers or digital circuits such as ASICs, specialized digital signal processors.

2. Explain briefly expert system instrumentation

The Expert system instrumentation is a system that emulates the decision-making ability of human experts. They are classified as a form of artificial intelligence. It is the act of using an artificial