NAME: Nwankwo Ebuka

DEPARTMENT: COMPUTER ENGINEERING

MATRIC NO: 17/ENG02/054

COURSE CODE: EEE 471

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.