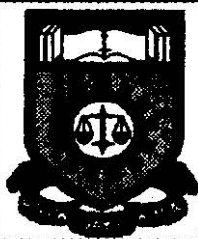


# **ON-LINE MEASUREMENT OF BJT AMPLIFIER**

**This is presented in partial fulfilment for the award of the  
Bachelor in Electrical Engineering ( Honours ) of  
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## **Abstract**

**This project is concerned with the automatic measurement and gain calculation of the Bipolar Junction Transistor (BJT) amplifier using personal computer. The data collection are made through RS232 serial link of the PC. These process are controlled by a software written in C language. The software tool which produced from this project can assist the student in analysing the behaviour of the BJT amplifier. This software can be modified to automate the KJE 291 laboratory experiment.**

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## CHAPTER 1

### 1.0 Introduction.

The project is concerned with the automatic measurement and gain calculation of Bipolar Junction Transistor (BJT) amplifier using personal computer. The project is divided into two part: hardware and software. The hardware comprises of BJT amplifier circuit , analogue digital converter (ADC) circuit and universal asynchronous receiver and transmitter (UART) serial interface using Rs-232 I/O port. The analogue output of the BJT amplifier is converted to digital signal through A/D converter circuit. This signal will pass through the serial interface to the computer.

At present, manual measurement generates several difficulties as follow;

- i. Systematic error during experiment.
- ii. Time consuming to plot the bandwidth graph.

The above problems can be overcome using the software programming. This software will plot the graph of voltage gain (dB) versus frequency. The tabulated form of voltage gain (dB) and frequency will be displayed automatically on the screen. The bandwidth will be displayed as well. Therefore the data collecting process will be faster than manually. Figure 1, shows the block diagram of overall system.