

Introduction to Computer Systems CCE1011

Coursework 2010-2011

One topic from the list below, to be assigned. A write up of about ten pages is to be presented, individually, on the topic. If it is felt necessary there will be a further oral examination.

While you are encouraged to use the resources on the Internet, please be aware that some double checking is necessary as the data is not always necessarily accurate, especially if it is dated. It is clear that cut and paste from Internet to your document does not make this your work. So you must put an input at the level of comparison, discussion, advantages and disadvantages etc. of whatever topic, technology, etc. you are writing on.

Topics list.

1. Cache memory organization in 2 processors from list below – organization, write policy, replacement algorithm if applicable.
2. Internal **data bus** structure of 2 processors from a list – single bus or multibus; operation and control of the **external busses** including relevant timing diagrams
3. RAM organization at chip level for 1 type of dynamic RAM and 1 type of Static RAM– address decoding, columns and rows, refresh strategy
4. HDD physical and logical organization including error control techniques; Optical memory – operation, including techniques used to transfer from optical to electronic and vice-versa, organization and error control.

List of Processors for 1 and 2a

Power PC G5

80486

Pentium 4

Itanium