

Course work on information technology 100 quiz

[War](#), [Intelligence](#)



Fill in the blank Questions (4 pts. each, 20 pts. Total)

- 1) Field inputs are governed by input masks.
- 2) A computer program is an algorithm that has been customized to solve a specific task.
- 3) Intensity of color ranges from cosmic rays to electric waves.
- 4) Figuring out why a process or system doesn't work is called debugging.
- 5) An algorithm must be simple and precise.

Short Answer Questions (5 pts. each, 60 pts. Total)

- 1) What is the Turing Test?

It is an examination of whether a machine has the ability to demonstrate capacities of intelligence.

- 2) Explain what a workaround is.

This is the bypass of an identified particular problem in a given system. A workaround is basically a short time fix that consequently calls for a permanent solution to a problem, and that solution should be genuine.

- 3) Explain what Field inputs and lexical structures.

Field inputs are referred to as the data or information that is put on the computer screen in boxes. This process may hinder appearance of particular properties of the information. Lexical structures on the other hand are the rules that govern the legal forms for input fields during the information-put process.

- 4) What is parallel computation?

This is the simultaneous application of multiple computing resources in solving a computational problem. Parallel computation has set the base for

future computing.

5) Explain the Universality Principle of computers.

Computer universality principle refers to the uniformity and characteristic similarity of functionality among different computers in the way they handle commands and consequently display responses to the user interface.

6) Briefly explain the compression ratio.

Compression ratio is the process by which representation size of data is reduced and further quantified by an algorithm of data compression. The process is analogous in nature and involves determining what size of data is compressed and what size is not, thereby giving a ratio comparison of the two.

7) What is ADC and how does it work?

Analog-to-Digital Converter is a microcontroller peripheral that is used to transform an analog signal into a digital signal for ease in processing, since analog signals are hectic to process compared to the digital numbers that constitute a digital signal. Their working ability depends on the required input range, beyond which the conversion cannot place. Digital signals consist of whole numbers with no occurrence of fractions.

8) What is DAC and how does it work?

The DAC functionality is the opposite of ADC explained in the previous question in that, it transforms digital numbers into analog signals. In this case, samples are pulled from the memory they are held in and converted into a train of impulses. This takes place at a significant frequency spectrum of the required range.

9) Explain what "P and A" stands for.

“ P “ stands for a programmer who is the personnel that develops programs.

“ A” stands for an analyst, who examines the functionality of the program after it has been developed.

10) Explain Definiteness in regards to inputs and outputs. Give an example of computer intelligence.

Input and output definiteness relates to the need of defining what is fed into the computer and what is displayed as a result. Computer intelligence is the functionality that distinguishes the two. For example, the MS Word.

11) Discuss what is meant by the “ context” of information given to a computer. Why is it important to?

Information context given to a computer is passed through commands that the computer is in a position to read and consequently interpret, after which the computer responds to the command. Promptly, the computer displays response context to the user, through the right interface.

Short Answer Questions (10 pts. Each, 20 pts Total)

1) Briefly describe the 6 processes to follow when debugging an issue.

Debugging is the process by which unwanted and unexpected program behaviors (buds) are removed from the program. The process followed includes:

Identifying the bug- This involves the detection of an unusual behavior in a program or in the way that program runs. A bug is identified at the instance that a program fails to follow the specific direction of normal functionality.

Replicating the bug- This involves the creation of another program behavior that is also undesirable, but this is done within controlled conditions. This process is tailored towards finding a particular demonstration that represents

presence of a bug.

Understanding the bug- The reasons that led to the emergence of the bug should be identified at this instance. This may be time consuming but this step is fundamental in the debugging process.

Locating the bug- The specific bug location in the source code of the program is sort to be determined. This involves determining whether the bug is in the code that brings about the visible incorrect behavior or in the actual incorrect code.

Fixing the bug- This step consists of the activity undertaken to correct the undesired behavior of the program. In fixing the bug, the debugging phase can be left with a consequent come back to the programming procedure. Proper maintenance requires that the bug be fixed immediately.

Learn from the bug- Determine the causes and consequences of the bug to the programming and the program at large. Identify the relative ways to avoid occurrence of bugs at a later date and keep track of inconsistent behavior of programs.

2) Explain how EZ Pass computers work as discussed in class.

These are computers that are developed to ease pass checks around restricted areas. Information contained in these computers is subject to similar information contained in a general database, where information or data read from the EZ pass computer is compared to that of the general database for validity. Matching the information contained in the EZ pass computer to that in the clients' transponder validates the pass, applying the necessary charges automatically.