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| **SESSION** | **AUGUST 2023** |
| **PROGRAM** | **Bachelor of COMPUTER APPLICATION (BCA)** |
| **SEMESTER** | **IV** |
| **course CODE & NAME** | **DCA2203&system software** |

**Assignment Set – 1**

**1. Describe the internal architecture of Intel 8086.**

**Ans 1.**

**Intel 8086 Internal Architecture**

The Intel 8086, introduced in 1978, marked a pivotal milestone in the microprocessor industry, serving as a bridge between earlier 8-bit microprocessors and the 32-bit processors of the future. Its architecture can be dissected into several components:

**1. Bus Interface Unit (BIU):**

**Segment Registers:** The 8086 memory system is segmented. Four segment registers (CS, DS, ES, SS) are used to store the starting addresses of code, data, extra segments, and stack segment respectively.

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**2. a. Explain different types of Assemblers.**

**Ans 2a.**

The assemblers can be of any one of the following types:

1) Single pass assemblers

2) Two pass assemblers and

**b. Describe the design of One Pass and Two Pass Assembler. -**

**One Pass Assembler**

A one-pass assembler scans the program just once. One-pass assemblers are used when,

1. It is necessary or desirable to avoid a second pass over the source program.

2. The external storage for the intermediate file between two passes is slow or inconvenient to use.

**3a. Compare the working of an absolute loader and a simple Bootstrap loader.**

**Ans 3a.**

**Comparison of Absolute Loader and Simple Bootstrap Loader:**

**Absolute Loader:**

An absolute loader is a type of loader used in the early days of computing to load a program into memory for execution. It is a simple and straightforward loading mechanism, primarily used on older systems where memory management and relocation were not as advanced as in

**b. Explain in detail about Machine dependent loader features.**

**Ans 3b.**

**Machine Dependent Loader Features:**

Machine-dependent loader features are aspects of a loader that are specific to the underlying hardware architecture and the machine's instruction set. These features are essential for ensuring that programs can run efficiently and correctly on a particular computer system.

**Assignment Set – 2**

**4. Differentiate between Line editors and Stream editors.**

**An 4.**

Line Editors and Stream Editors represent two types of text processing paradigms that were primarily used in the era of command-line interfaces. Their main function is to process and edit text, but they operate on different principles and methodologies. Let's explore the

**5. Explain the basic building blocks of an UPnP enabled network.**

**Ans 5.**

Universal Plug and Play (UPnP) is a set of networking protocols that enables devices to easily connect to each other and automatically establish functional network services for data sharing, communication, and entertainment. UPnP operates seamlessly in the background, requiring minimal user intervention, which makes it an attractive choice for a variety of consumer electronics. Here, we'll discuss the basic building blocks of an UPnP-enabled network.

**6. What are the diverse types of memory in phones? List some of the usages of memory of the android system.**

**Ans 6.**

**Diverse Types of Memory in Phones**

When we discuss memory in the context of phones, it's essential to differentiate between the types of memory available. Phones employ a variety of memory types, each designed for specific tasks, ensuring seamless operation and multitasking capabilities.

1. **RAM (Random Access Memory):**

**Nature**: Volatile, which means it loses its content when the phone is turned off.

**Purpose**: Used for temporary storage of data and application processes. It provides quick