BSSE 23058
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Section A.

Assignment # 1.

Information & Communication Technologies.

Q1. The four types of computers that are designed for use by organizations are:

- Network Servers are specialized computers designed to provide various services and resources to other computers & devices within a network. They play a central role in managing & facilitating communication and data sharing with in an organisation.
- Mainframe Computers, used by large ~~com~~ enterprises. These handle complex and critical tasks such as processing large volume of data.
- Minicomputers, they handle much more input & output than personal computers can. ~~They are~~ There capabilities are somewhere between mainframes and personal computers.
- Supercomputers are the most powerful computers. These systems can process huge amounts of data.

Q2. Mainframe systems may offer in power but lacks in flexibility. Most of them are designed to handle only a specific number of tasks. It is because they are larger and have more processing power, so my limiting the number of tasks, the system must perform, administrators preserve as much power as possible for required operations.

Q3. There are two common designs for desktop computers. One is the more traditional desktop model features a horizontally oriented system unit, which usually lies flat on the top of the users desk. One is the vertically oriented tower models. This design allows the user to place the system unit next to or under the desk, if desired.

Q4. The operating system software tells the computer exactly how to break up, format, send, receive, and reassemble data using TCIP/IP. The four major applications that use TCP/IP are, for Web Browsing, Email communications, File transfers, Video conferencing or applications like Zoom, Skype etc. TCP/IP is fundamental to modern networking and enables the interconnectedness of devices and services across the globe.

Q5. The two main categories of storage devices are magnetic storage and Optical storage. Magnetic storage uses magnetized surfaces to store digital information in devices like hard disks, VCR's. The optical storage relies on the use of lasers to read and write data. On Optical discs like CDs, DVDs etc. The latest technologies being used for storage are Solid-State Drives which are popular due to there speed, reliability. NVMe and 3D NAND are being used that has enabled higher storage densities.

Q6. NodeJS is an open-source, server-side runtime environment that allows developer to run JavaScript code on the server. NodeJS has changed the paradigm of website development by introducing a highly efficient and scalable approach to building server-side applications with JavaScript. NodeJS's ~~is owned~~ asynchronous programming model, extensive ecosystem, real-time capabilities and unified language has made it a popular choice for modern web development. It develops builds web applications particularly those that require high performance and real-time interactivity.