

Type/Status : Core

Course Code : SOST 21444

Title : **Introduction to Computer Science**

Learning Outcomes : On completion of this course unit students should be able to understand the historical development of computers, functions of a computer system, computer software and hardware, services of operating system, data communication and computer networks, applications of computers in various disciplines.

Course content :

- Introduction, history of computers, computer generations, computer revolution.
- Basic component of a computer: central processing unit, input output devices, external storage devices.
- Types of computers: digital computers, analog computers, hybrid computers.
- Classification of computers: on the basis of operating principles, on the basis of aim of applications, on the basis of size and speed.
- Concept of software: system software and application software, compilers, interpreters, system utility software.
- Concept of hardware: simple architecture of a typical computer, number conversion system.
- Operating system.
- Computer languages: high level languages and low level languages.
- Data communication and computer networks: introduction to data communication, introduction to computer network, advantages of computer network, network topologies, data communication hardware system.
- Information technology applications: scientific and business applications: computers for medicine and sports, the use of computers in government and politics, computer for research.

Methods of teaching and learning: lectures, practical classes, discussion and assignments.

Assessment scheme:

Assignments	30%
Semester end examination	70%

Recommended reading:

French C.S. (2004), *Data Processing and Information Technology*, 10th edition, Thomson Learning.

Carpinelli J.D. (2002), *Computer Systems- Organization and architecture*, Pearson Education (Singapore) Pte Ltd., Indian Branch.

Forouzan B., (2006), *Data Communications and Networking*, 4th edition, Tata McGraw-Hill Publishing Company Ltd.