PRINCIPLES OF COMPUTER ENGINEERING   3 0 0 3

OBJECTIVE

To provide a fundamental knowledge of Computer Engineering , which includes evolution of computers and its various components and applications.

UNIT – I   INTRODUCTION   9

Characteristics of computers – Evolution of Computers – Evaluation of computers – Computer generations – Units of Data storage – Coding data in storage – Program planning – Algorithms – Evaluation of Algorithms - Flow charts – Pseudocodes.

UNIT – II   SOFTWARE & HARDWARE   9

Basic computer operations – Classification of computers – Hardware components – Bus Architecture and instruction sets – Computer Ethics - Generation of Languages – Compiler & Interpreters – Virtual Machines – Procedural programming – Object oriented programming – Scripting languages – Functional languages – Language design – Language syntax and semantics.

UNIT – III   OPERATING SYSTEMS   9

Role of OS – Types of OS – Functions of OS – Process Management – Memory Management – File Management – Device Management – Security – MS-DOS – UNIX – Windows – Current trends of OS.

UNIT – IV   DATABASE MANAGEMENT   9

File based approach and Database approach – Evolutions of data models – Three levels architecture for DBMS – Data independence – Data dictionary – Database administrator – Database languages.

UNIT – V   NETWORKS   9

Definition and purpose of computer Networks – Open systems interconnections – Types of networks – Topologies in Network Design – Switching Technologies – TCP/IP Network model – Networking Devices – Internet – www and network security.

TOTAL: 45

TEXT BOOKS:

1. Pradeep K. Sinha and Priti Sinha, Computer Fundamentals, Third Edition, BPB Publications, New Delhi, 2003.

2. Carl Reynolds and Paul Tymann, Principles of Computer Science, Schaum's Outline Series, McGraw Hill, New Delhi, 2008.
3. Sanjay Silakari and Rajesh K. Shukla, Basic Computer Engineering, Wiley-India, 2011.

REFERENCE:

1. Bhanu Pratap,, Computer Fundamentals, Cyber Tech Publications, New Delhi, 2011.