

**APPLIED SCIENCES**  
**PART – II**

## **APPLIED COMPUTER SCIENCES**

Note: This is an introduction to computer science. A brief description and definitions of terms will be taught to the students.

1. An over view of Computer system.
2. The shapes of computer today–Super Computer, Main frame, mini computer, Works stations and PC.
3. Input methods–Key board , Mouse,
4. Alter native methods of input – hand devices, optical devices, Audio-visual input devices.
5. Monitors and sound system – Monitors – PC. Projectors, sound system.
6. Printer and brief introduction to its types.
7. Transforming data in to information representation, process, speed etc.
8. CPU – types with definition
9. Types of storage devices – Magnetic and optical.
10. Measuring drive information- access time, file compression, transfer rate, interface standard.
11. Basic of operating system–interface, programme, files, hardware and software management
12. Definitions of Unix, DOS, Macintosh operating system, Windows, OS / 2, Windows NT, 95, 98, 2000, Linux.
13. Words processing and Desk tope Publishing software.
14. Spread sheet software.
15. Presentation programme
16. Data base management System.
17. Networking basics – brief of use, structure, LANs, Media, Hardware and Software.
18. Networking – Standard telephone lines, digital lines, Network in the home. 19. Internet basics
20. Accessing, connecting, working on internet, introduction to DICOM, PACS.
21. Working with images.
22. Graphics software.
23. Understanding multi-media.
24. Creating and distributing media contents.
25. Basics of information system- Use, Parts.
26. Building information system – five phases – need, Design, development, implementation, maintenance.
27. Creating programmes – definitions of programme and approaches.
28. Programming languages and system development life cycle.
29. Ergonomics, health and privacy issues.
30. Brief of computer crimes, Viruses, Theft and computer environment

# PATIENT SAFETY

## 1-10 Electrical Hazards

- Electrical current and body muscles
- Electric shock
- Defibrillators
- Pace makers
- High and low frequency electricity in medicine
- Classification of medical equipment
- Degree of protection in equipment
- Earth leakage current
- Maximum current limits and safety tests

## 11-15 Fire and explosion in hospitals

- Inflammable gases and liquids
- Static electricity
- Precaution against fire and explosion

## 16-26 Surgical diathermy and other possible hazards in hospitals

- Surgical diathermy and precautions
- Mechanical hazards
- Heat and light hazards
- Chemical burns

## 27-35 Radiation

- Non-ionizing radiation
- Ionizing radiation
- Microwave ovens
- Ultrasound therapy equipment
- Lasers

## 36-40 Infection in hospitals

- The hospital environment
- Pathogenic, non-pathogenic microorganisms
- Modes of spread of infection
- Kinds of infection
- Cross-infection
- Precautions and prevention.