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# SYLLABUS FOR INTER- DISCIPLINARY COURSE (IDC) IN COMPUTER SCIENCE

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Under Single Major Single Minor & Three Discipline  
Specific Course (FYUGP)  
(To be implemented from Session 2024-25)

SEM II

<b>Course- IDC Paper:</b>	<b>Paper Code- IACTIDC211 FUNDAMENTALS OF INFORMATION &amp; COMMUNICATION TECHNOLOGY</b>	<b>Credits-2</b>	<b>Lectures/Week-2</b>
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**Theory Marks : 40**

**Prerequisite(s) and/or Note(s):**

- (1) High school Mathematics.
- (2) Note(s): Syllabus changes yearly and may be modified during the term itself, depending on the circumstances. However, students will be evaluated only on the basis of topics covered in the course.

**Course Objectives**

**Knowledge acquired:**

- (1) Basic computer concepts and terminology.
- (2) Understanding of information systems and networks.
- (3) Knowledge of software applications and tools.

**Skills gained:**

- (1) Proficiency in using productivity software.
- (2) Basic coding and programming skills.
- (3) Ability to troubleshoot common ICT issues.

**Competency Developed:**

- (1) Critical thinking in ICT problem-solving.
- (2) Communication skills for technical concepts.
- (3) Adaptability to emerging technologies.

**Syllabus Overview**

<b>Unit 1: Introduction to Computers</b>	<b>7 Lectures</b>
Introduction, Definition, Characteristics of computer, Evolution of Computer, Block Diagram of a computer, Generations of Computer, Classification of Computers. Input Units: Key board, Terminals, and its types. Pointing Devices, Scanners and their types, Voice Recognition Systems, Vision Input System, Touch Screen. Output Units: Display Units, Printers, Speakers, Web Cams, Projectors.	
<b>Unit 2: Storage Organization</b>	<b>8 Lectures</b>
Primary Storage: RAM ROM, PROM, EPROM, EEPROM. Secondary Storage: Magnetic Tapes, Magnetic Disks. Cartridge tape, hard disks, Floppy disks Optical Disks, Compact Disks, Zip Drive, and Flash Drives. Network Storage.	
<b>Unit 3: Software – OS and Application</b>	<b>8 Lectures</b>
Software and its needs, System Software: Operating System, Utility Programs Programming Language: Machine Language, Assembly Language, High-Level Language their advantages & disadvantages.	
<b>Unit 4: IT in Action</b>	<b>7 Lectures</b>
Applications of Information Technology: Cable TV, Video on Demand, Video Conferencing, Online Shopping, ATM, Electronic Data Interchange, Telemedicine, Geographic Information System, Internet of Things.	

## Suggested Readings

1. Peter Norton's (2000), Introduction to computers, Tata McGraw Hill.
2. Brain K. Williams and Stacey C Sawyer (2005), Using information technology: a practical introduction to computers and communications, Tata McGraw-Hill.
3. Aruneed Baweja (2003), Introduction to information technology, Kalpaz Publication.
4. Lee Barry (1982), Introducing systems analysis and design, Galgotia Book source.
5. Albert Paul Melvino, Albert Paul Malvino and Jerald Brown (2006), Digital computer electronics, Tata McGraw Hill.
6. William Stallings (2002), Computer organization and architecture: designing for performance, Prentice Hall.
7. R. B. Davison (1968), Guide to the computer, Longman Green.
8. Hwang Kai (2014), Advanced computer architecture : parallelism, scalability, programmability, Tata McGraw Hill .
9. Gary W. Hansen and James V. Hansen (2003) Database management and design, Prentice Hall of India.

<b>Course-IDC</b>	<b>Paper Code- IACTIDC211T</b>	<b>Credits-1</b>	<b>Tut./Week-1</b>
<b>Paper:</b>	<b>FUNDAMENTALS OF INFORMATION &amp; COMMUNICATION TECHNOLOGY (Tutorial)</b>		

**Tutorial Marks: 20**

Computer Fundamentals Tutorial as assigned and advised by teacher(s).