

PHY- 602 : TRANSDUCER, I T AND PROGRAMMING IN C -II

UNIT- I: Transducers;

Transducer, Classification of transducers, Resistive position transducer, Resistive pressure transducer, Inductive pressure transducer , Capacitive pressure transducer, Self-generating inductive transducers, LVDT, Piezoelectric transducer, Strain Gauge, Temperature transducers, Resistance temperature detectors, Thermistor, Thermocouples, Various types of Microphones, Carbon microphones, Ribbon microphones, Moving-coil microphone, Crystal microphone, The loudspeaker..

Basic reference :

Basic Electronics-solid state by B.L. Theraja, S Chand, Third Edition-1988

UNIT - II: Information Technology (I.T.)

(a) Computer Network:

Local Area Network(LAN), Metropolitan Area Network(MAN) Wide Area Network(WAN), Routing, Network topology , Transmission Technology, Internet works and the internet, Protocols, Open Systems Inter connection reference model.

(b) Internet:

Network client/server, Host and terminals, TCP/IP WWW: World Wide Web., Hypertext, Uniform resource locator (URL) Web Browser address domain name, Internet service provider (ISP's) Internet security Internet requirements Web search engine, surfing.

(c) Multimedia:

Compression, components of multimedia.

(d) Virus

Introduction to computer viruses, What is virus?, Classification of viruses, Latest known viruses, virus prevention, Anti virus.

Basic reference:

Fundamental of Information technology by: Deepak Bharihoke

UNIT- III: Programming in C

(a) File management in C:

Defining and Opening a File, Closing a File, I/O operations on Files, Error handling during I/O operations, Random Access to Files, Command Line Arguments.

(b) Dynamic Memory Allocation and Linked Lists:

Dynamic Memory Allocation, Allocating a Block of Memory, Allocating Multiple Blocks of Memory, Releasing the Used Space:Free, Alternating the size of a Block: Realloc, Concepts of Linked Lists, Advantages of Linked Lists, Types of Linked Lists..

UNIT- IV: Programming in C

(a) Developing a C program:

Program Design, Program Coding, Common Programming Errors, Program Testing and Debugging, Program Efficiency.

(b) Programming of Numerical methods

Solution of a polynomial equations:Bisection method, Newton's Raphson method

Numerical Integration:Trepizoidal method, Simpsons's method

Basic reference :

Balagurusamy E., Programming in ANSI C (IIIInd Ed.), TMH Pub.(For U-III&IV)

Other references :

- 1.Electronics and Radio Engineering by M.L. Gupta (for Transducers)
2. Measurement, Instrumentation and experimental design for Physicists and Engineers by M.Sayer and Mansingh
- 3.Fundamentals of Information Technology by J.S. Upadhyay & B.R Patel,
Atul Prakashan,Ahmedabad(2006-07)
4. Programming in C by P.Day and Ghosh Oxford Press, New Delhi(2007)