

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

## Scheme of teaching and examination

### B.E. V Semester Information Technology

S.No	Board of Study	Subject Code	Subject Name	Periods per week			Scheme of Exam			Total Marks	Credit L+ (T+P) / 2
				L	T	P	Theory / Practical				
							ESE	CT	TA		
1	Information Technology	333511(33)	Telecom Switching & Computer Networks	3	-	-	80	20	20	120	3
2	Electronics & Telecom.	322515(28)	Principles of Communication System	3	1	-	80	20	20	120	4
3	Electronics & Telecom.	328515(28)	Microprocessor and Interfaces	3	1	-	80	20	20	120	4
4	Information Technology	333512(33)	Computer Organization and Architecture	3	-	-	80	20	20	120	3
5	Computer Science & Engg	322513(22)	Operating System	3	-	-	80	20	20	120	3
6	Information Technology	333514(33)	Introduction to JAVA	3	1	-	80	20	20	120	4
7	Electronics & Telecom.	333521(28)	Microprocessor and Interfaces Lab	-	-	4	40	-	20	60	2
8	Information Technology	333522(33)	Software Technology Lab-2	-	-	4	40	-	20	60	2
9	Information Technology	333523(33)	Telecom Switching & Computer Networks Lab	-	-	4	40	-	20	60	2
10	Information Technology	333524(33)	Principles of Communication Systems Lab	-	-	4	40	-	20	60	2
11	Humanities etc.	300525(46)	Personality Development	-	-	2	-	-	20	20	1
12	Information Technology	333526(33)	* Practical Training Evaluation and Library	-	-	1	-	-	20	20	1
<b>TOTAL</b>				<b>18</b>	<b>3</b>	<b>19</b>	<b>640</b>	<b>120</b>	<b>220</b>	<b>1000</b>	<b>31</b>

L-Lecture, T- Tutorial, P- Practical, ESE- End Semester Examination, CT- Class Test, TA- Teacher's Assessment

\* To be completed after IV Semester and before the commencement of V Semester

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester: V  
Subject: Telecomm Switching and Computer Network  
Total Theory Periods: 40  
Total Marks in end semester examination: 80  
Minimum number of class tests to be conducted: 02

Branch: Information Technology.  
Code: 333511 (33)  
Total Tutorial Periods: Nil

## **UNIT-I TELEPHONY & CABLE TECHNOLOGY:**

Basic concept of telephony system & topology, Framing, Multiplexing, Flow/ Error control, Multiple access, Circuit / Packet switching, Addressing / Routing, Subscriber loop system, switching hierarchy and routing, PSTN, ISDN, DSL, ADSL. Cable technologies.

## **UNIT-II COMPUTER NETWORK**

Introduction, Perspective of network, protocols and standard, Network Topologies, Transmission Mode, categories of network; LAN, MAN, WAN, OSI Model, Functions of the layer, TCP/IP Protocol suit, Link Configuration, Asynchronous and Synchronous mode. Physical layer: Digital data transmission, DTE-DCE Interface, other Interface Standard, V.24 Null Modem, Modem Standards, cable Modem, Transmission Media, Data Link layer: Types of Errors, Error Detection and Correction Methods, Flow Control, HDLC, Brief Details of Data Link Protocols.

## **UNIT –III LOCAL AREA NETWORK & UPPER LAYERS**

Aloha, /slotted aloha IEEE 802 Standards; IEEE 802.1, LLC, MAC, PDU, ETHERNET: Access method, addressing, Frame Format, Implementation, Switched Ethernet, Fast Ethernet, Gigabit Ethernet, Token Bus, Token Ring, FDDI, OSI layers: Network Layer, Transport Layer, Session Layer, Presentation Layer, Application Layer, Networking and Internetworking devices :Overview of repeaters, Bridges, routers, Gateways, Hubs. TCP: TCP Services, TCP Header Format, FTP, SMTP, HTTP.

## **UNIT –IV EXAMPLE NETWORKS & ROUTER DESIGN: -**

Switched packet & data services, concept of ingredient, X.25, Frame relay, ISDN, ATM network, ATM signaling and PNNI routing, ATM traffic management, IP over ATM to MPLS, Decoupling, Introduction to traffic engineering, high speed router design.

## **UNIT -V CRYPTOGRAPHY & DIGITAL SIGNATURE**

Cryptography: Encryption; Decryption; Cryptogram (cipher text); Single key (Secret key); Cryptography; two-key (Public key) cryptography; Single key cryptography; The data Encryption Standard; Public Key Cryptography; Diffie-Hellmann public key distribution; The Rivest- Shamir Adelman(R-S-A) system for public key cryptography; Digital Signature, Certification authority.

### **Text Books:**

1. Data Communication & Networking by Behrouz A. Forouzan.
2. Data and Computer Communication by William Stalling (Pearson Education)
3. Computer Networks by Andrew S.Tanenbaum

### **Reference Books:**

1. Computer Networking by Ed Tittel (Schaum's series) (TMH)
2. Cryptography and Network Security by Atul kahate (TMH)
3. Telecom Switching system & Networking by Thiagrajan viswanathan (PHI)

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester : V  
Subject: Principles of Communication Systems  
Total Theory Periods: 40  
Total Marks in End Semester Examination: 80  
Minimum number of Class tests to be conducted: 02

Branch: Information Technology.  
Code: 322515 (28)  
Total Tutorial Periods: 12

## **UNIT – I : Amplitude Modulation System**

Need for Modulation, Amplitude Modulation, Amplitude Modulation Index, Modulation Index for Sinusoidal AM, Frequency spectrum for Sinusoidal AM, Average power for Sinusoidal AM, Effective voltage and current for sinusoidal AM, Balanced Modulator, The Square law demodulator, Nonsinusoidal modulation, DSBSC Modulation, SSB modulation and generation, VSB, FDM.

## **UNIT – II : Angle Modulation System**

Phase and frequency modulation and their relationship. Frequency deviation, spectrum of FM Signal, BW of FM Signal, Effect of modulation on BW, constant BW, FM phasor diagram, Narrow band F.M. Armstrong and Parameter variation methods of FM generation and FM demodulators.

## **UNIT – III : Digital Communication**

Sampling theorem, Pulse Modulation: PAM, PPM, PWM. Quantization of Signals, Quantization error, Pulse Code Modulation (PCM) and the system, Time division multiplexing (TDM), DPCM, DM, ADM, PSK FSK and DEPSK.

## **UNIT – IV : Elements of Information Theory**

Average Information, Entropy, Information Rate. Communication Channel. Discrete and Continuous channel, Shannon-Hartley Theorem and its Implications, Channel capacity, Gaussian channel. Bandwidth s/N trade off.

## **UNIT – V : Advanced Communication Techniques**

Satellite Communication: Components and Block diagram of Satellite communication system, Transponders, Up-link and Down-link budget calculations.

Fiber Optic Communication: Principles of light propagation in optical fiber, Losses in fibers, Dispersion, Connectors and splices, Fiber optic communication link.

### **Text Book:**

1. Electronic Communications by Roddy & Coolen, PHI.
2. Electronic Communication System by Kenedy & Davis, TMH

### **Reference Books:**

1. Principles of Communication system by H.Taub and K.L. Shiling.
2. An Introduction to the Principle of Communication Theory by J.C. Hancock, Mc-Graw Hill.
3. Signal Processing, Modulation and Noise -by Betts, English University Press, London.
4. Communication System-by A.B. Carlson ,Mc-Graw Hill.

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester: V  
Subject: Microprocessor and Interfaces  
Total Theory Periods: 40  
Total Marks in End Semester Examination: 80  
Minimum number of Class tests to be conducted: 02

Branch: AEI/CS/EI/EEE/ET&T/IT  
Code: 328515 (28)  
Total Tutorial Periods: 12

## UNIT – I

**Microprocessor Architecture:** Introduction to Microprocessors, Architecture of 8085, Pin Configuration and Function; internal register & flag register, Generation of Control Signals: Bus Timings: Demultiplexing of address / data bus; Fetch Cycle, Execute Cycle, Instruction Cycle, Instruction Timings and Operation Status, Timing Diagram.

## UNIT – II

**Instruction Set and Programming with 8085:** Instruction for Data Transfer. Arithmetic and Logical Operations. Branching Operation: Machine Cycle Concept; Addressing Modes; Instructions Format: Stacks. Subroutine and Related Instructions. Elementary Concepts of Assemblers, Assembler Directives, Looping and Counting: Software Counters with Time Delays: Simple Programs using Instruction Set of 8085: Debugging: Programs Involving Subroutines. Programs for Code Conversion e.g. BCD to Binary, Binary to BCD. Binary to Seven-Segment LED Display. Binary to ASCII. ASCII to Binary: Program for Addition Subtraction: Programs for Multiplication and Division of Unsigned Binary Numbers.

## UNIT – III

**Data Transfer and Device Selection:** Format of Data Transfer: Modes of Data Transfer: Type of I/O Addressing: Condition of Data Transfer: Microprocessor Controlled Data Transfer: Peripheral Controlled Data Transfer: Absolute and Linear Select Decoding: Memory and I/O Interfacing: Use of Decoders Selection: Memory organization and Mapping.

## UNIT – IV

**Interrupts:** Restart Instruction; Hardware Implementation: Interrupt Processing; Multiple Interrupts and Priority Concepts: Interrupt Structure of 8085: Instructions related to interrupts: Pending Interrupts: Use of Interrupt and Handshaking Signals in Interfacing: Application of Interrupts and Illustrative Programs.

## UNIT – V

**Architecture of Peripheral Interfacing Devices:** Architecture, Pin Diagram and functioning of 8155/8156 (RAM), 8355/8755 (ROM), 8255 (PPI). Simple programs like Initialization and I/O operations of the ports, Timer operation of 8155.

Programmable Internal Timer 8253/8254: Block Diagram, Pin Configuration, Modes, Initialization Instruction, Interfacing and Simple Programmes to generate various types of signals.

Architecture, Pin diagram, description and initialization of Keyboard and display interface (8279), USART (8251)

### **Name of Text Books:**

1. Microprocessor Architecture, Programming and Application by R. S. Gaonkar, Wiley Eastern
2. Digital Systems – From Gates to Microprocessors by Sanjay K. Bose, New Age International Publishers.

### **Name of Reference Books:**

1. 8085 Microprocessor Programming & Interfacing – N.K. Srinath, PHI
2. Digital Computer Electronics – Malvino, TMH
3. Microprocessors: Theory and Applications – Intel and Motorola, Rafiquuzzaman, PHI.
4. 0000 to 8085: Introduction to Microprocessor for Engineers and Scientists, Ghosh & Sridhar, PHI

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester: V Sem  
Subject: Computer Organization & Architecture  
Total Theory Periods: 40  
Total Marks in end semester examination: 80  
Minimum number of Class tests to be conducted: 02

Branch: Information Technology.  
Code: 333512 (33)  
Total Tutorial Periods: Nil

## **UNIT-I BASIC COMPUTER ORGANIZATION AND DESIGN**

Computer Organization, Computer Architecture, Difference between Computer Organization & Computer Architecture, Machine Language, Milestones in Computer Architecture, Organization of a Simple Computer, Interconnection Structures, Bus Interconnection, MAR, MBR, PC, IR, PCI. Data Path of a typical Von Neumann Machine, Instruction Code, Decoding & Execution, The Fetch- Decode-Execute Cycle: Example, Instruction Formats, Stack Organization, Addressing Modes, Introduction to pipelining: Linear pipeline processor, Nonlinear pipeline processor, Branch handling techniques, Super pipeline, Data and Resource dependencies, Superscalar Processor.

## **UNIT-II ARITHMETIC PROCESSOR DESIGN**

Fixed-Point Arithmetic- Addition and Subtraction: addition and subtraction with Signed-Magnitude Data, Hardware Implementation, Hardware Algorithm, addition and subtraction with Signed- 2's Complement Data. Multiplication Algorithm: Hardware Implementation, Hardware Algorithm, Binary Multiplication, Booth Multiplication Algorithm. Division Algorithm, Floating-Point Arithmetic Operations: Basic Considerations, Register Configuration, Addition, subtraction, Multiplication & Division. Decimal Arithmetic Unit: Decimal Multiplication, Decimal division.

## **UNIT-III CONTROL UNIT ORGANIZATION**

The Control Unit: Type of control unit, Control Unit Function, Control Unit Operation, Hardwired Control Unit- Basic Concept, Advantages, Disadvantages. Micro-Programmed Control Unit- Basic Concept, Advantages, Disadvantages. Difference between Hardwired Control Unit and Micro-Programmed Control Unit, Control Memory, Address Sequencing. Micro-Programmed Micro-Instruction Types- Vertical Micro-Programming, Horizontal Micro-Programming, Control Store, Horizontal Versus Vertical, Principle Advantages, Disadvantages, Microinstruction Formats, Microinstruction Sequence, Emulation, Bit Slicing.

## **UNIT-IV STORAGE AND MEMORY HIERARCHY**

Basic Concept and Terminology, Memory Hierarchy, Semiconductor Memories- RAM and ROM Chips, Memory Address Mapping, Memory connected to CPU. Memories and Interleaving- Virtual memory, Cache memories, Cache memory working principles, Cache coherence issues, Cache performance analysis. Memory Management Hardware Requirements.

## **UNIT V INPUT/OUTPUT ORGANIZATION**

Programmed I/O, I/O Addressing, I/O instruction, Synchronization, I/O Interfacing, Interrupt Mechanism, DMA, I/O Processors and Data Communication. System Interconnect Architectures: Network properties and routing, static interconnection networks, dynamic interconnection networks, multiprocessor system interconnects: Hierarchical bus systems, Crossbar switch and multipart memory, Multistage and combining network.

### **Text Books**

- 1 Computer System Architecture By, M. Morris Mano Prentice- Hall, 1993.
- 2 Computer Architecture & Organization By John P. Hayes, McGraw Hill-1998

### **Reference Books**

- 1 Structured Computer Organization by Andrew S. Tanenbaum.
2. Computer architecture a quantitative approach, Patterson D. A. and Hennessey, J. L., Second Edition, Morgan Kaufman, 1996.

## **CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)**

Semester: V  
Subject: Operating System  
Total Theory Periods: 40  
Total Marks in end semester examination:80  
Minimum number of class tests to be conducted: 02

Branch: Information Technology.  
Code: 322513(22)  
Total Tutorial Periods: Nil

### **UNIT- I INTRODUCTION**

Operating System objective and function. The Evolution of Operating Systems, Batch, interactive, time – sharing and real time systems. Protection. Operating System Structure: System COMPONENTS, operating system service, System structure. Distributed Computing, The Key Architecture Trend: Parallel Computation, Input-Output Trends.

### **UNIT-II CONCURRENT PROCESSES**

Process concept: - Introduction Definitions of “Process”, Process States, Process State Transitions, The process Control Block, Operations on Processes, Suspend and Resume, Interrupt Processing, The Nucleus of the Operating System. Asynchronous Concurrent Process: - Introduction, Parallel Processing, A Control Structure for Indicating Parallelism, Mutual Exclusion, The Producer / consumer problem, the critical section problem, semaphores, Classical problems in concurrency, Inter process Communication, Process generation, Process Scheduling. CPU Scheduling: Scheduling concepts, Performance criteria, and scheduling algorithms. Algorithm evaluation, Multiprocessor scheduling.

### **UNIT-III DEAD LOCKS**

System model. Deadlock characterization. Prevention, avoidance and detection, Recovery from dead lock Combined approach.

### **UNIT-IV MEMORY MANAGEMENT**

Base machine, resident Monitor, Multiprogramming with fixed partitions. Multiprogramming with variable partitions. Multiple Base Registers. Paging, segmentation paged segmentation, Virtual Memory concept, Demand Paging, Performance, Page Replacement algorithms, Allocation of frames, Thrashing, Cache memory organization impact on performance.

### **UNIT-V I/O MANAGEMENT & DISK SCHEDULING**

I/O Devices and the organization of the I/O function. I/O Buffering, Disk I/O, Operating System Design issues. File System: File concept- File organization and Access mechanism, File Directories, File sharing. Implementation issues. Case Studies: - Unix System, MVS, OS/2, A Virtual Machine Operating System.

#### **Text Books**

1. Operating System Concepts, Silbersehatz A. and Peterson, J. L., Wiley.
2. An Introduction to Operating Systems, Dietel, H. N., Addison Wesley.

#### **References Books**

1. Operating System: Concept & Design, Milenkovic M., and McGraw Hill.
2. Operating System, Stalling, William, Maxwell McMillan International Editons, 1992.

## **CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)**

Semester: **V**

Subject: **Introduction To JAVA**

Total Theory Periods: **40**

Total Marks in end semester examination: **80**

Minimum number of class tests to be conducted: **02**

Branch: **Information Technology.**

Code: **333514(33)**

Total Tutorial Periods: **12**

### **UNIT – I INTRODUCTION & FUNDAMENTALS**

Features of Java, newly added features in Java2, introduction to OOPS, data types, variables, literals, expressions, operators, arrays and programming constructs, Garbage Collection, Comparision with C++, Java Virtual Machines, Java Class Libraries, JIT, Overview of Java Technologies: Applets, Beans, RMI, Servlets, JSP, JSF, CORBA .

### **Unit – II CLASSES AND OBJECTS**

Classes and Objects, Objects and References, , Method: Defining method, calling method, passing arguments to method, this keyword, overloading method, static, Access specifiers; public, default, private & protected. Command line arguments, constructors and finalizers, overloading constructors, inner classes.

Introduction to inheritance; definition and advantages, overriding, Super , final and abstract classes, Interface , Package.

### **Unit – III EXCEPTIONS, STRING AND VECTOR**

Basics of exception handling, default Exception handling, try and catch, Multiple catch statements, try-catch- finally, uses of throw and throws, Strings: string constructor, string arithmetic, string methods, stringbuffer and methods, Introduction and programming using Vector, Iterator and Enumeration

### **Unit – IV MULTITHREADING**

Thread Concepts, Thread lifecycle, Runnable Vs Thread Class, Thread Priority, Thread Methods, Thread Synchronization: Concept of Monitor, Synchronized methods & Synchronized blocks.

### **Unit –V INTERNET PROGRAMMING WITH JAVA**

AWT, applets and application, user interfacing components, Events and Event Handling, Overview of Swing Components, Java Database Connectivity: JDBC, ODBC, executing DDL, DML commands, statement, prepared statement and callable statement, Java Store d Procedures.

#### **Text books:**

1. Java complete reference – Herbert Schildt (TMH)
2. Java how to program – Dietel and Dietel

#### **Reference books:**

1. Programming with Java :- Schaum's series
2. Java 2 Black book – Steven Holzner
3. Java Examples in a nutshell – O' Reilly
4. Core Java – Cay S. Horstman, Gary Cornell

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY  
BHILAI (C.G.)**

Semester : V

Branch: **Information Technology**

Subject: **Microprocessor & Interfaces Lab**

Code: **333521 (28)**

Total Practical Periods: **50**

Total Marks in End Semester Examination: **40**

Suggested List of Experiments (but should not be limited to):

1. **REVERSING AN ARRAY:** A Block of 16 bytes are residing at locations starting from BLOCK 1 WAP to transfer the block in reverse order at locations starting from BLOCK 2.
2. **SORTING IN ASCENDING ORDER :** A block ( 16 bytes are residing at locations starting from DATA : Write a program to arrange the word in the same location in ascending order
3. **BINARY ADDITION :** 16 bytes are residing at location starting from DATA WAP : to add all bytes and store the result location SUM and SUM + 1
4. **BCD ADDITION :** 16 BCD NUMBER are residing at location starting from DATA WAP to add all bytes and store the result location SUM and SUM + 1
5. **MULTIPLICATION:** Two bytes are residing at location DATA 1 and DATA 2 Write a program to multiply the two bytes and store the result at location PROD 1 and PROD 2.
6. **BINARY TO BCD :** A binary number is residing at location BIN > WAP to convert the binary number in to its equivalent BCD and store the result at BCD and BCD + 1
7. **BCD TO BINARY :** A BCD number is residing at location BCD ; Write a program to convert the BCD number into its equivalent binary and store the result at BIN
8. **MULTIBYTE ADDITION :** Two 10 bytes are residing at location starting from DATA 1 and DATA 2 respectively , Write a program two add them up and store the result at location starting from RESULT ( result space 11 bytes )
9. **MULTIBYTE BCD ADDITION :** Two 6 digit BCD numbers are residing at location starting from DATA 1 and DATA 2 respectively. Write a program to add them up and store the result at locations starting from RESULT (Result space 7 bytes )
10. **RST 6.5 :** A block of 16 bytes is residing at location starting from ; DATA Reverse the block and store the bytes at REVERSE whenever the RST 6.5 key is pressed.
11. **EDITING OF ASCII STRING:** A string of ASCII characters is residing at locations starting from READ which contain "I \$ WILL \$ BE \$ AN \$ ENGINEER ". Edit string in such a way that it should contain "I \$ will \$ be \$ Engineer ". Keep the edited string in the same locations. Product the string from further editing. ( \$ stands for a blank )
12. **SIGNED BINARY ADDITION:** A block of 16 signed binary numbers is residing at locations NUMBERS. Add them up and store the result ( in signed binary ) at locations from RESULT.
13. **ASCII CODE CONVERSION:** A string of 16 ASCII characters are residing at locations starting from DATA. The string consists of codes for capital letters, small letters and BCD digits ( 0-9 ) . Convert the ASCII characters. In such a way that the codes for capital letters be converted into corresponding codes for small letters, codes for small letters into that of capital letters and codes for BCD digits into that of BCD numbers and store them at the same locations.

14. **PARITY CHECK:** A block of 32 bytes is residing at DATA count the number (BCD) of times even and odd PARITY bytes are appearing consecutive memory locations. Keep the count at MATCH.
15. **SERIES GENERATION :** Two BCD numbers a and b are residing at locations DATA 1 and DATA 2 respectively . Write a program to form a series in BCD with the elements of a.  $a + 2b$  ,  $a + 4b$  ,  $a + 6b$  , ..... Stop the generation of the series whenever any element of the series in BCD with the elements of the series exceeds (99). Store the result at locations starting from RESULT. Count the number (BCD) of elements in the series and store it at NUMBER.

**List of Equipments/Machine Required:**

8085 based microprocessor kit, MASM assembler, 8085 simulator, PCs.

**Recommended Books:**

8085 Microprocessor Programming & Interfacing – N.K. Srinath, PHI

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester: **V**  
Subject: **Software Technology Lab –2**  
Total Practical Periods: **50**  
Total Marks in End Semester Exam. : **40**

Branch: **Information Technology**  
Code: **333522 (33)**

## **Suggested List of Experiments (but should not be limited to):**

1. Write a program to perform multiplication of two matrices.
2. Write a program to find the volume of a box having its side w,h,d means width ,height and depth. Its volume is  $v=w*h*d$  and also find the surface area given by the formula  $s=2(wh+hd+dw)$ . use appropriate constructors for the above.
3. Develop a program to illustrate a copy constructor so that a string may be duplicated into another variable either by assignment or copying.
4. Create a base class called shape. Apart from Constructors, It contains two methods getxyvalue() and showxyvalue() for accepting co-ordinates and to display the same. Create the subclass Called Rectangle which contains a method to display the length and breadth of the rectangle called showxyvalue().Illustrate the concepts of Overriding and Constructor call sequence.
5. Write a program that creates an abstract class called dimension, creates two subclasses, rectangle and triangle. Include appropriate methods for both the subclass that calculate and display the area of the rectangle and triangle.
6. Write a program, which throws Arithmetic Exception. Write another class (in a different file) that handles the Exception.
7. Write a program to sort a stream of Strings.
8. Create a user defined Exception class which throws Exception when the user inputs the marks greater than 100 Catch it and again rethrow it.
9. Write a program in which a Mythread class is created by extending the Thread class. In another class, create objects of the Mythread class and run them. In the run method print "CSVТУ" 10 times. Identify each thread by setting the name.
10. Write a program to illustrate various thread methods.
11. Write a Program to implement Bank Account Class which illustrates the concept of Synchronization.
12. Write Program to illustrate the use of Vector Class and Iterator Interface.
13. Write a program, which illustrates capturing of Mouse Events. Use Applet class for this.
14. Write a program using swing components which simulates simple calculator.
15. Write a JDBC program for Student Mark List Processing.
16. Write a Japplet to simulate OnLineTest that uses JDBC and Vector.
17. Design a text editor, which is having some of the features of notepad.

## **Reference books:**

1. Java2 complete reference - Herbert schildt (TMH)
2. Java programming – E Balagurusamy
3. Java 2 Black book – Steven Holzner
4. Java Examples in a nutshell – O' Reilly

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY  
BHILAI (C.G.)**

Semester: **V**

Subject– **Telecom Switching & Computer Network Lab**

Total Practical Periods: **50**

Total Marks in End Semester Exam. : **40**

Branch: **Information Technology**

Code: **333523 (33)**

**Suggested List of Experiments (but should not be limited to):**

1. Introduction to Local Area Network with its cables, connectors, Switches, Hubs and topologies.
2. Installation of UTP, Co-axial cable, Cross cable, parallel cable NIC and LAN card.
3. To study the network topology and IP Addressing scheme of Institute Network.
4. Case Study of Ethernet (10 base 5,10 base 2,10 base T)
5. Installation and working of Net meeting and Remote Desktop.
6. Installation and working with Telnet (Terminal Network).
7. Installation and working with FTP (File Transfer Protocol). Write a program to simulate FTP Server.
8. Installation and Computers via serial or Parallel ports and enable the computers to share disk and printer port.
9. To connect two Personal Computer with Telephone line.
10. Installation of Modem and Proxy Server.
11. Installation of Windows 2003 server/ Windows 2000 server.
12. Introduction to Server administration and Configuration of DHCP.
13. Write a program to encrypt and decrypt a file using a key.
14. Write a program to simulate the stop and wait protocol.
15. Write a program to simulate the Go n Back ARQ protocol.
16. Write a program to simulate echo server.

**Recommended Books**

1. Computer Network and internet by Douglas E. Comer (Pearson Education)
2. List of Software required: -
3. Windows 2003 server/Windows 2000 server.
4. List of Hardware required: -
5. LAN Trainer Kit LAN Card Cable, Connectors, HUB, Switch, Crimping Tools.

# CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY BHILAI (C.G.)

Semester: V  
Subject: **Principles of Communication System Lab**  
Total Practical Periods: **50**  
Total Marks in End Semester Exam. : **40**

Branch: **Information Technology**  
Code: **333524 (33)**

## **Suggested List of Experiments (but should not be limited to):**

- ✍✍ To Draw the O/P waveform of Amplitude Modulation & Demodulation & Calculate Modulation Index.
- ✍✍ To Draw the O/P waveform of Frequency Modulation & Demodulation & Calculate Modulation Index.
- ✍✍ To Study DSB Transmitter & Receiver.
- ✍✍ To Study SSB Transmitter & Receiver.
- ✍✍ To Study FM Transmitter & Receiver.
- ✍✍ To Observe & plot the Graph of PAM Modulation & Demodulation.
- ✍✍ To Observe & plot the Graph of PPM Modulation & Demodulation.
- ✍✍ To Observe & plot the Graph of PWM Modulation & Demodulation.
- ✍✍ To Perform Sampling & Reconstruction of original signal & to calculate the Sampling Frequency.
- ✍✍ To Perform Amplitude Shift Keying(ASK) thereby determining relative change in Amplitude.
- ✍✍ To Perform Frequency Shift Keying(FSK) thereby determining relative change in Frequency.
- ✍✍ To Perform Phase Shift Keying(PSK) thereby determining relative change in Phase
- ✍✍ To Perform Quadrature Phase Shift Keying(QPSK) thereby determining relative change in Phase.
- ✍✍ To Perform Quadrature Amplitude Modulation(QAM).
- ✍✍ To perform Adaptive Delta Modulation , Demodulation .
- ✍✍ To perform Delta Modulation & Compare it with Adaptive Delta Modulation (ADM).
- ✍✍ To study & perform Transmission & Reception of signal using TDM Technique.

## **Text Book:**

1. Electronic Communications by Sing & Saprey.
2. Electronic Communication System by Kenedy & Davis, TMH

## **Reference Books:**

1. Principles of Communication system by H.Taub and K.L. Shiling.
2. An Introduction to the Principle of Communication Theory by J.C. Hancock,Mc-Graw Hill.
3. Signal Processing, Modulation and Noise -by Betts, English University Press,London.
4. Communication System-by A.B. Carlson ,Mc-Graw Hill.

**CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY  
BHILAI (C.G)**

Semester : **V**  
Subject : **Personality Development**  
No. of Periods : **2 per week**  
Total Marks in End Semester Exam. : **NIL**  
Minimum number of class tests to be conducted: **02**

Branch : **Common to All Branches**  
Code : **300525 (46)**  
Tutorial Periods : **NIL**  
Teacher's Assessment: **20Mks**

**Objective:** The course is introduced to develop one's outer and inner personality tremendously and enrich the abilities to enable one to meet the challenges associated with different job levels. Personality Development is essential for overall development of an individual apart from gaining technical knowledge in the subject.

**Unit – I**

**Personality concepts:**

- What is Personality – its physical and psychic aspects. How to develop a positive self-image. How to aim at Excellence. How to apply the cosmic laws that govern life and personality.
- How to improve Memory. How to develop successful learning skills. How to develop and effectively use one's creative power.
- How to apply the individual MOTIVATORS that make you a self-power personality.

**Unit – II**

**Interpersonal Skills:**

- Leadership: Leaders who make a difference, Leadership: your idea, What do we know about leadership? If you are serious about Excellence. Concepts of leadership, Two important keys to effective leadership, Principles of leadership, Factors of leadership, Attributes.
- Listening: Listening skills, How to listen, Saying a lot- just by listening, The words and the music, How to talk to a disturbed person, Listening and sometimes challenging.
- How to win friends and influence people, How to get along with others. How to develop art of convincing others. How can one make the difference. How to deal with others particularly elders. Conflicts and cooperation.

**Unit – III**

**Attitudinal Changes:**

- Meaning of attitude, benefits of positive attitudes, how to develop the habit of positive thinking.
- Negative attitude and winning: What is FEAR and how to win it. How to win loneliness. How to win over FAILURE. How to win over PAIN. How to win over one's ANGER and others anger. How to overcome CRITICISM. What is stress and how to cope up with it? What is crisis and how to manage it.
- How to apply the character MOTIVATORS that elevate you and your personality to the top, the art of self motivation.
- How to acquire mental well-being.
- How to acquire physical well-being.
- How to formulate effective success philosophy.

**Unit –IV**

**Decision Making:**

How to make your own LUCK. How to plan goals/objectives and action plan to achieve them. How to make RIGHT DECISION and overcome problems. How to make a Decision. Decision making : A question of style. Which style, when ? People decisions : The key decisions. What do we know about group decision making ? General aids towards improving group decision making. More tips for decisions of importance.

## **Unit – V**

### **Communication Skills:**

- Public Speaking: Importance of Public speaking for professionals. The art of Speaking - Forget the fear of presentation, Symptoms of stage fear, Main reason for speech failure, Stop failures by
  - acquiring Information; Preparation & designing of speech, Skills to impress in public speaking & Conversation, Use of presentation aids & media.
  - Study & Examination: How to tackle examination, How to develop successful study skills.
  - Group discussions: Purpose of GD, What factors contribute to group worthiness, Roles to be played in GD.

### **Reference Books :**

1. How to develop a pleasing personality by Atul John Rego, Better yourself books, Mumbai, 2000.
2. How to Succeed by Brian Adams, Better Yourself books, Mumbai, 1969.
3. Basic Managerial skills for all by E. H McGrawth, Prentice Hall India Pvt Ltd, 2006.
4. The powerful Personality by Dr Ujjawal Patni & Dr Pratap Deshmukh, Medident Publisher, 2006.
5. Great Words win Hearts by Dr Ujjwal Patni, Fusion Books, 2006.
6. Personality: Classic Theories & Modern Research; Friedman ; Pearson Education 2006.
7. How to win friends and influence people by Dale Carnigie, A.H. Wheeler 2006.