

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

## **Scheme of Teaching and Examination**

### **B.E. V Semester Electronics & Telecommunication Engineering**

Sl. No.	Board of Study	Code No.	Subjects	Period Per Week			Scheme of Exam			Total Marks	Credit L+(T+P)/2
				L	T	P	Theory/ Practical				
							ESE	CT	TA		
1	Electronics & Telecom.	328511 (28)	Linear Integrated Circuits & Applications	3	1	-	80	20	20	120	4
2	Electronics & Telecom.	328512 (28)	Industrial Instrumentation	3	1	-	80	20	20	120	4
3	Electronics & Telecom.	328513 (28)	Electromagnetics Waves & Antennas	3	1	-	80	20	20	120	4
4	Electronics & Telecom.	328514 (28)	Communication System - I	3	1	-	80	20	20	120	4
5	Electronics & Telecom.	328515 (28)	Microprocessor & Interfaces	3	1	-	80	20	20	120	4
6	Electronics & Telecom.	328516 (28)	Automatic Control System	3	1	-	80	20	20	120	4
7	Electronics & Telecom.	328521 (28)	Linear Integrated Circuits & Applications Lab	-	-	3	40	-	20	60	2
8	Electronics & Telecom.	328522 (28)	Communication System - I Lab	-	-	4	40	-	20	60	2
9	Electronics & Telecom.	328523 (28)	Microprocessor & Interfaces Lab	-	-	4	40	-	20	60	2
10	Electronics & Telecom.	328524 (28)	Simulation Lab	-	-	2	40	-	20	60	1
11	Humanities etc.	300525 (46)	Personality Development	-	-	2	-	-	20	20	1
12	Electronics & Telecom.	328526 (28)	*Practical Training Evaluation and Library	-	-	1	-	-	20	20	1
<b>TOTAL</b>				<b>18</b>	<b>6</b>	<b>16</b>	<b>640</b>	<b>120</b>	<b>240</b>	<b>1000</b>	<b>33</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***

**Semester: V**

**Subject: Linear Integrated Circuits & Applications**

**Total Theory Periods: 40**

**Total Marks in End Semester Examination: 80**

**Minimum number of Class tests to be conducted: Two**

**Branch: Electronics & Telecommunication**

**Code: 328511 (28)**

**Total Tutorial Periods: 12**

## **UNIT – I**

**Operational Amplifiers:** OAMP Symbol and terminal characteristics, Block Schematic of OPAMP, Basics of Differential Amplifier, Ideal OPAMP Characteristics, Practical OPAMP Characteristics, Open Loop Configuration of OPAMP, Closed Loop Configuration of OPAMP. Input & Output impedance of closed loop OPAMP. Input Bias and Offset Currents, Low-input bias-Current Op Amps, Input Offset Voltage, Low-input-offset-Voltage Op Amps, Input Offset-error compensation, Maximum Ratings. Inverting Amplifier, Non-Inverting Amplifier, Voltage Follower.

## **UNIT – II**

**Applications of OPAMP:** Comparator, Schmitt Trigger, Zero Crossing Detector, Level Detector, Window Detector, Precision Half Wave Rectifier, Precision Full Wave Rectifier, Current to Voltage and voltage to current Converter, Phase Shifter, Differential Amplifier, Bridge Amplifier, Instrumentation Amplifier. Differentiator, Integrator. Logarithmic amplifier, Analog Switches, Peak Detectors, Sample- and- Hold Amplifiers. Norton Amplifier, Sense amplifier, Bootstrap amplifier.

## **UNIT – III**

**Signal Generators & Conditioners:** Square Wave Generator, Triangular Wave Generator, Sawtooth Wave generator, Clipper Circuits: Series Clipper, Parallel Clipper. Clamper Circuits: Negative Clamper, Positive Clamper. High Pass RC Circuit as Differentiator, Low Pass RC Circuit as Integrator. Voltage sweep generator, Current Sweep generator

## **UNIT – IV**

**Multivibrators:** Transistor as Switch , Types of Multivibrator (bistable, astable & monostable), Fixed and self biased binary , use of Commutating Capacitor , improving resolution , Schmitt trigger Emitter Coupled , Mono stable Multivibrator : Collector – Coupled and Emitter – Coupled Multivibrator.

## **UNIT – V**

**Timer & Regulators:** 555 Timer: Functional Diagram: Monostable and Astable operation. Voltage Regulators: Voltage regulator characteristics, Regulator Performance parameters, Types of Voltage regulator, Shunt Regulator using OPAMP, Transistorised Series Feedback Regulator, Safe Operating Area, Protection Circuit, Short Circuit Protection, Current Limiting Circuit, Foldback Limiting, Three Terminal IC Regulator, Three Terminal IC Regulator (LM 317, LM 337, 78XX, 79XX) [Description, Schematic Diagram and Pin Diagram], General Purpose IC Regulator (723): Important features and Internal Structure.

### ***Name of Text Book:***

1. Integrated Circuits by K. R. Botkar, Khanna Publications
2. Operational Amplifiers by R. Gayekwad, 4<sup>th</sup> Ed., Pearson Education

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

1. Pulse, Digital and Switching Waveforms by Millman & Taub, TMH Publishing Co.
2. Integrated Electronics by Millman & Halkias, TMH Publishing Co.
3. Operational Amplifiers and Linear Integrated Circuits, Lal Kishore, PHI
4. Design and Applications of Analog Integrated Circuits, Soclof, PHI

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

Semester : V

Subject: Industrial Instrumentation

Total Theory Periods: 40

Total Marks in End Semester Examination: 80

Minimum number of Class tests to be conducted: Two

Branch: Electronics & Telecommunication

Code: 328512 (28)

Total Tutorial Periods: 12

## **UNIT: I**

**Instrument Characteristics:** Transducer performance characteristics, Generalized performance of systems, Static terms and characteristics, Dynamic terms and characteristics, standard test inputs, zero, first and second order instruments and their responses, Higher order systems, calibration and standards, process of calibration, standards for calibration.

## **UNIT:II**

**Pressure Measurement:** Terminology, Units; Manometers – Piezometer, U-Tube Double Column Manometer, Single Column Manometer, U-Tube Differential Manometer; Advantages and Limitations; Bourdan Gauge; ring balance manometer, bell type pressure gauges, elastic pressure transducers, low pressure gauges, Dead Weight Piston Gauge, Servo Operated Manometer, Feedback Pneumatic Load Cell.

## **UNIT:III**

**Temperature Measurement:** Types of temperature measuring instruments; Liquid-in-glass thermometers; Bimetallic Thermometers; Thermocouples, Laws of thermocouples, Elements of thermoelectric pyrometers, Resistance thermometers; Thermistors; Radiation and Optical Pyrometers, Temperature Balance Systems, Heat Flow Balance Systems.

## **UNIT:IV**

**Flow Measurement:** Classification of flow measurement techniques, variable head meters and related theory for incompressible fluids, Nozzle, Orifice, Venturi, Pitot Tube, Anemometers, Turbine Meter, Current Meter, Electromagnetic Flow Meter, Ultrasonic Flow Meter, Variable Area Meters, Variable Head and Area Meters, Quantity Meters, Servo Operated Electromagnetic Flow Meter.

## **UNIT:V**

**Introduction to Process Control:** Control Systems; Process control principles; Servomechanisms; Process Control Block Diagram; Process control system evaluation, Analog and Digital Processing, Time Response.

**Final Control:** Final Control Operation; Signal Conversions; Actuators; Control Elements, Hydraulic And Pneumatic Control Systems.

## **Text Books:**

1. Murty, D.V.S.; *Transducers and Instrumentation*; PHI, 10<sup>th</sup> print 2003
2. Johnson, C.; *Process Control Instrumentation Technology*; PHI, 4<sup>th</sup> Edition

## **Suggested Reference:**

1. Patranabis, D.; *Sensors and Transducers*; PHI, 2<sup>nd</sup> Edition
2. Industrial Control & Instrumentation, W. Bolton, University Press.
3. Electronic Measurements and Instrumentation: Oliver and Clegg: TMH.
4. Electronic Instrumentation, H.S. Kalsi, 2<sup>nd</sup> Ed., TMH.
5. Jain, R.K.; *Mechanical and Industrial Measurements*; Khanna Publ., 10<sup>th</sup> Edition - 4<sup>th</sup> reprint 2000

# ***Chhattisgarh Swami Vivekanand Technical University, Bilai***

**Semester : V**

**Subject: Electromagnetics Waves & Antennas**

**Total Theory Periods: 40**

**Total Marks in End Semester Examination: 80**

**Minimum number of Class tests to be conducted: Two**

**Branch: Electronics & Telecommunication**

**Code: 328513 (28)**

**Total Tutorial Periods: 12**

## **UNIT-I**

**Fields and waves:** Displacement Current: Maxwell's Equations: Circuit Theory as Quasi-static Approximation: Poynting's theorem and Flow of power. Plane wave: Solution of Wave Equation for Loss less and lossy media; Phase Velocity, Dispersion: *Group* Velocity, Complex Propagation Constant, Intrinsic Impedence, Normal and Oblique Incidence of Plane Wave on a Perfect Conductor and polarization: Linear, Circular and elliptical.

## **UNIT-II**

**Transmission lines:** Complex Propagation constants, loss less transmission lines, distortion and distortion less condition, characteristics impedance, Reflection Coefficient, standing Wave Ratio, Transmission line parameters, Line Calculation for matched and General Terminations, Impedance Transformation by quarter Wave line ,Stub Matching.

## **UNIT - III**

**Waveguides:** Field in open wire and coaxial Cable: wave propagation between parallel planes: TE and TM Waves; Dominant Modes; Properties of TEM waves: Attenuation in Parallel plane Guide; TE and TM wave in Rectangular and Circular waveguides: Field patterns; wave Impedance: Wavelength; phase velocity and Group velocity.

## **UNIT - IV**

**Antennas and Radiation:** Electromagnetic Radiation: Short Electric Dipole: Half –wave Dipole: Radiation from a small current Element –power Radiated: Radiation from a Half –wave Dipole-Power Radiated: Radiation Resistance.

Isotropic Radiator and Radiation Pattern; Radiation Intensity: Antenna Gain: Reciprocity Theorem and its Application: Effective Length; Antenna Top Loading and Tuning: Effect of Earth: Antenna Efficiency: Bandwidth: Effective Aperture of short Dipole and Half –wave Dipole: polarization

## **UNIT - V**

**Antenna Arrays and their Design:** Broadside and End fired Array: collinear Array: Array of point sources: Non-isotropic but similar point sources: Pattern Multiplication: Linear Arrays with in Isotropic point sources of equal Amplitude and spacing: Array of “n” Isotropic sources of Equal Amplitude and spacing –Broadside case. End fired case: Binomial. Dolph. Tchebycheff Array, Practical Antennas – Resonant and Non-resonant Antenna; Rhombic Antenna & Loop Antenna.

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

1. Engineering Electromagnetism, Hayt, 7<sup>th</sup> Ed., TMH
2. Electromagnetic Waves and Antennas : K D Prasad, Khanna Pub.

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

1. Network, Lines and Fields, Ryder, 2<sup>nd</sup> Ed., PHI
2. Electromagnetic Fields – Jordan & Ballman, PHI.
3. Electromagnetic Field Theory and Transmission Lines Networks, Raju, 2<sup>nd</sup> Ed., Pearson Education.
4. Elements of Engineering Electromagnetics, N.N. Rao, 5<sup>th</sup> Ed., PHI.
5. Electromagnetic Waves and Antennas : Collins: TMH
6. Antennas and Wave Propagation: G.S.N. Raju, Pearson Education

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

**Semester : V**

**Subject: Communication System - I**

**Total Theory Periods: 40**

**Total Marks in End Semester Examination: 80**

**Minimum number of Class tests to be conducted: Two**

**Branch: Electronics & Telecommunication**

**Code: 328514 (28)**

**Total Tutorial Periods: 12**

## **Unit – I**

**Spectral Analysis:** Fourier Series, Normalised power in a Fourier expansion, Power Spectral Density, Fourier transform, Parseval's Theorem, Power & Cross co-relation, Auto co-relation, Bandlimiting of waveforms.

## **Unit – II**

**Linear Modulation: Amplitude Modulation:** Amplitude Modulation, Generation of AM waves, Demodulation of AM waves, Suppressed carrier modulation, DSB-SC modulation, Generation of DSB-SC signals, Detection of DSB-SC signals, Single-tone modulated DSB-SC, Quadrature AM, SSB-SC modulation, Generation of SSB-SC signals, Detection of SSB-SC signals, VSB, Comparison of various AM systems.

## **Unit – III**

**Exponential Modulation: Phase & Frequency Modulation:** Mathematical representation of FM & PM signals, Single tone FM, Multitone FM, Transmission BW of FM waves, WBFM and NBFM, Generation of FM waves, Demodulation of FM waves, Interference, De-emphasis and Pre-emphasis filtering.

## **Unit – IV**

**Radio Transmitters & Receivers:** General block diagram of AM, FM and PM transmitters, Block diagram of high level and low level AM Transmitter, High level transistor collector modulator, Low level transistor modulator, Balanced modulator for SSB generation. Reactance modulator for FM generation, Direct FM transmitter, Indirect (Armstrong) FM transmitter, Block diagram of Stereophonic FM transmitter  
TRF receivers- sensitivity & Selectivity, Superhetrodyne receivers – image frequency & its rejection, SSB receivers. Block diagram of FM receivers. *(This unit should be covered in a Block diagrammatic approach rather than covering the detail of the circuits.)*

## **Unit – V**

**Noise in CW Modulation:** Various noise sources, Noise calculations for – single noise sources, multiple noise sources, cascade and cascade amplifiers. Noise figure and its measurement, Noise temperature, Equivalent input noise resistance, noise Bandwidth, noise measurement on line and channel. Band – pass noise representation, noise figure calculation for various modulation systems (DSB-AM, DSB-SC, SSB and FM), Effects of transmitter noise. Noise in Angle Modulated systems: Noise in FM systems, Threshold in FM, Threshold improvement through De-emphasis, Noise in phase modulation.

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

1. *Principles of Communication Systems* by Taub and schilling ; Tata McGraw Hill
2. A Text Book of Analog & Digital Communication – P. Chakrabarti, Dhanpat Rai & Co.

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

1. Electronic Communication systems by George F Kennedy : Tata McGraw Hill
2. Communication Systems Engineering, Proakis, 2<sup>nd</sup> Ed., Pearson Education
3. Electronic Communications, Roddy & Collen, 4<sup>th</sup> Ed., PHI
4. Analog and Digital Communication systems, Martin S. Roden, 5<sup>th</sup> Ed., Shroff Publishers & Distributors.

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

Semester : V

Subject: Microprocessor & Interfaces

Total Theory Periods: 40

Total Marks in End Semester Examination: 80

Minimum number of Class tests to be conducted: Two

Branch: AE/CS/E/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, Rafiquzzaman, PHI.
4. 0000 to 8085: Introduction to Microprocessor for Engineers and Scientists, Ghosh & Sridhar, PHI

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

Semester : V

Subject: Automatic Control Systems

Total Theory Periods: 40

Total Marks in End Semester Examination: 80

Minimum number of Class tests to be conducted: Two

Branch: Electronics & Telecommunication

Code: 328516 (28)

Total Tutorial Periods: 12

## **Unit-I**

**Mathematical Model of Physical Systems:** Differential Equation of Physical system. Transfer function, Block Diagram Algebra, signal flow graphs. Feedback characteristics of control systems. Feedback & Non feedback systems, reduction of parameter variation, control of system Dynamic. Control of the effect of dynamic signal by use of feedback, regeneration feedback.

## **Unit-II**

**Time Response Analysis:** Design specification and performance Indices. Standard Text signals, Time response of first and second order system, steady state error and error constants, Effect of adding a zero to a system. Design specification of second order system stability concept, Routh- Hurwitz stability criteria relation stability analysis.

## **Unit-III**

**Root Loci's Technique:** Root loci's concept construction for Root loci, Root contours, system with transportation by Polar Plots, Bode Plots. All pass and minimum phase system.

## **Unit-IV**

**Stability in Frequency Domain:** Nyquist stability criteria, Assessment of relation stability. Realization of basic compensators, Cascade compensation in time and frequency Domain. Feedback compensation.

## **Unit-V**

**State Variable Analysis and Design:** Concept of stab, state variables and state model. State model for linear continuous time systems, Diagonalization, solution of state equation, concept of controllability and observability. Pole placement by state feedback.

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

1. Control System Engineering, L. Nagrath and Gopal, New Age International Publications
2. Automatic Control System, B.C. Kuo, PHI

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

1. Modern Control Engineering, Ogata, Pearson Education
2. Modern Control Engineering, Roychoudhury, PHI
3. Control Engineering – A Comprehensive Foundation, Ramakalyan, Vikas Publishing House Pvt. Ltd.
4. Introduction to Control Engineering, Ajit K. Mandal, New Age International Publications.

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

**Semester : V**

**Subject: Linear Integrated Circuits & Applications Lab**

**Total Practical Periods: 40**

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

**Branch: Electronics & Telecommunication**

**Code: 328521 (28)**

## **Experiments to be performed:**

- ✍✍ To design a Bistable multivibrator circuit and to draw its output waveform.
- ✍✍ To design a Monostable multivibrator circuit and to draw its output waveform.
- ✍✍ To design a Astable multivibrator circuit and to draw its output waveform.
- ✍✍ To design an inverting amplifier using OPAMP (741) and study its frequency response.
- ✍✍ To design a non-inverting amplifier using OPAMP (741) and study its frequency response.
- ✍✍ To design a summing amplifier using opamp (741)
- ✍✍ To design a differential amplifier using opamp (741) and find its CMRR.
- ✍✍ To determine SVRR and slew rate of an opamp (741)
- ✍✍ To design an astable multivibrator using 555 timer
- ✍✍ To design a monostable multivibrator using 555 timer.
- ✍✍ To design and study a diode clamper circuit.
- ✍✍ To design and study diode series and shunt clipper.
- ✍✍ To measure the input impedance of an voltage follower using opamp (741)
- ✍✍ To design and study comparator circuit using opamp (741)
- ✍✍ To study the voltage regulation of 78XX and 79XX series of voltage regulators.

## **List of Equipments/Machine Required:**

Discrete components, Power Supply, Function Generator, CRO

## **Recommended Books:**

Laboratory Manual for Operational Amplifiers and Linear ICs, David Bell, PHI



# ***Chhattisgarh Swami Vivekanand Technical University, Bilai***

**Semester : V**  
**Subject: Communication System – I Lab**  
**Total Practical Periods: 50**  
**Total Marks in End Semester Examination: 40**

**Branch: Electronics & Telecommunication**  
**Code: 328522 (28)**

## **Experiments to be performed:**

- ✍✍ To study Amplitude Modulation on trainer kit.
- ✍✍ To study Demodulation on trainer kit.
- ✍✍ To study Frequency Modulation and to trace the frequency modulated waveform on CRO using trainer kits.
- ✍✍ To study Frequency Demodulation using trainer kits.
- ✍✍ Design of a Frequency Demodulator Using PLL
- ✍✍ To study a radio receiver having medium frequency reception.
- ✍✍ To plot amplitude modulation of a signal and to calculate modulation index
- ✍✍ To find out the characteristics parameters of a transmission line.
- ✍✍ To generate SSB-SC signal and to study its characteristics.
- ✍✍ To generate DSB-SC signal using Balanced Modulator and to study its characteristics.
- ✍✍ To design a Square Law modulator using FET and to study its characteristics.
- ✍✍ To design a ring modulator and to study its characteristics.
- ✍✍ To design a Reactance Tube modulator and to study its characteristics.
- ✍✍ To design a Square Law detector using diode and to study its V-I characteristics.
- ✍✍ To design and study an envelope detector.

*(Along with the above experiments, Simulators may be used to give idea about various communication techniques.)*

## **List of Equipments/Machine Required:**

Discrete Components, Function Generator, Power Supply, CRO, Communication trainer kits, Modulated Signal Generator, Transmission Line. COMMSIM software.

## **Recommended Books:**

Radio Communication by G.K Mithal, Khanna Publishers

# *Chhattisgarh Swami Vivekanand Technical University, Bhilai*

Semester : V  
Subject: Microprocessor & Interfaces Lab  
Total Practical Periods: 50  
Total Marks in End Semester Examination: 40

Branch: Electronics & Telecommunication  
Code: 328523 (28)

Programmes to be executed (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***

**Semester: V**  
**Subject: Simulation Lab**  
**Total Practical Periods: 28**  
**Total Marks in End Semester Examination: 40**

**Branch: Electronics & Telecommunication**  
**Code: 328524 (28)**

## **Experiments to be performed:**

- ✍✍ To Design, implement and Simulate Fixed bias and self bias transistorized circuit for determining the bandwidth
- ✍✍ To Design, implement and Simulate Fixed bias and self bias for studying the low frequency and high frequency effect.
- ✍✍ To Design, implement and Simulate Miller integrator for determining the nonlinearities.
- ✍✍ To Design, implement and simulate current Sweep generator for determining the nonlinearities.
- ✍✍ To Design, implement and Simulate Inverting and non inverting amplifier for determining the bandwidth
- ✍✍ To Design, implement and Simulate Integrator & differentiator for studying output responses for different inputs.
- ✍✍ To Design, implement and Simulate zero crossing detector & comparator for studying output responses for different inputs.
- ✍✍ To Design, implement and Simulate Series Voltage regulator.
- ✍✍ To Design, implement and Simulate 1<sup>st</sup> & 2<sup>nd</sup> order LPF for determining the bandwidth and studying output responses for different inputs.
- ✍✍ To Design, implement and Simulate 1<sup>st</sup> & 2<sup>nd</sup> order HPF for determining the bandwidth
- ✍✍ To Design, implement and Simulate Half wave & Full wave rectifier using op-Amp for determining the bandwidth.
- ✍✍ To Design, implement and Simulate Series and Shunt Clipper for studying output responses
- ✍✍ To Design, implement and Simulate Clamping circuit for studying output responses for different inputs
- ✍✍ To Design, implement and Simulate Clamping Circuit with op-Amp for studying output responses for different inputs.
- ✍✍ To Design, implement and Simulate Instrumentation Amplifier using three op-Amp for determining the bandwidth
- ✍✍ To Design, implement and Simulate Monostable & Astable using 555 timer
- ✍✍ To Design, implement and Simulate R-2R ladder type Digital to analog converter
- ✍✍ To Design, implement and Simulate Flash type Analog to digital

## **List of Equipments/Machine Required:**

Desktop PCs, Simulation Software for Analog Circuits like MULTISIM, PSPICE etc.

## **Recommended Books:**

1. Experiments and SPICE Simulations in Analog Electronics Laboratory, Maheswari & Anand, PHI
2. Manuals of MULTISIM
3. Manuals of PSPICE

# ***Chhattisgarh Swami Vivekanand Technical University, Bhilai***

**Semester: B.E. V**

**Subject: Personality Development**

**No. of Periods : 2 pds/week**

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

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

**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.