

Chhattisgarh Swami Vivekanand Technical University, Bhilai

SCHEME OF TEACHING & EXAMINATION

B.E. V SEMESTER ELECTRICAL & ELECTRONICS ENGINEERING

S.No.	Board of Study	Subject Code	Subject	Periods per week			Scheme of Exam			Total Marks	Credit L+ (T+P) / 2
				L	T	P	Theory/ Practical				
							ESE	CT	TA		
1	Electronics & Telecom. Engg.	328515 (28)	Microprocessor & Interfaces	3	1	-	80	20	20	120	4
2	Electronics & Telecom. Engg.	328511 (28)	Linear Integrated Circuits & Applications	3	1	-	80	20	20	120	4
3	Electronics & Telecom. Engg.	328516 (28)	Automatic Control System	3	1	-	80	20	20	120	4
4	Electrical & Electronics Engg.	325511 (25)	Rotating Electrical Machines	3	1	-	80	20	20	120	4
5	Electrical Engg.	324512 (24)	Electronic Instrumentation	3	-	-	80	20	20	120	3
6	Electrical Engg.	325516 (24)	Communication System	3	1	-	80	20	20	120	4
7	Electrical & Electronics Engg.	325521 (25)	Rotating Electrical Machines Lab	-	-	4	40	-	20	60	2
8	Electrical & Electronics Engg.	325522 (25)	Automatic Control System Lab	-	-	4	40	-	20	60	2
9	Electrical & Electronics Engg...	325523 (25)	Microprocessor & Interfaces Lab	-	-	3	40	-	20	60	2
10	Electrical & Electronics Engg.	325524 (25)	Linear Integrated Circuits & Applications Lab	-	-	3	40	-	20	60	2
11	Humanities etc.	300525 (46)	Personality Development	-	-	2	-	-	20	20	1
12	Electrical & Electronics Engg.	325526 (25)	* Practical Training Evaluation and Library	-	-	1	-	-	20	20	1
Total				18	5	17	640	120	240	1000	33

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

*To be completed after IV Sem. and before the commencement of V Sem.

CHHATTISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSIT, BHILAI (C.G.)

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: AEI/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 (C.G.)**

Semester: V

**Branch: Electrical & Electronics Engg.
Electronics & Telecommunication**

Subject: Linear Integrated Circuits & Applications

Code: 328511 (28)

Total Theory Periods: 40

Total Tutorial Periods: 12

Total Marks in End Semester Examination: 80

Minimum number of Class tests to be conducted: Two

UNIT – I

Operational Amplifiers: OPAMP 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, 4th 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 (C.G.)

Semester : V

**Branch: Electrical & Electronics Engg.
Electronics & Telecommunication**

Subject: Automatic Control Systems

Code: 328516 (28)

Total Theory Periods: 40

Total Tutorial Periods: 12

Total Marks in End Semester Examination: 80

Minimum number of Class tests to be conducted: Two

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 (C.G.)

Semester: B.E. V Sem.
Subject: Rotating Electrical Machines
Total Theory Periods: 40
Total Marks in End SEM Exam: 80
Min no. of class to be conducted: Two

Branch: Electrical & Electronics Engg.
Code: 325511(25)
Total Tutorial Periods:12

UNIT-1 Electrical Machine Principles & Single phase Induction motors: Construction, Types, Characteristics of Single Phase Machines- Different types of single phase induction motors, Stepper motor, Reluctance motor, mechanical speed & frequency relation, mmf of concentrated & distributed winding, Emf equation, winding factors, torque & voltage in salient and non salient pole machines, Rotating magnetic field, Torque production in synchronous, induction machines

UNIT-2Synchronous Machines: Theory of non-salient pole machines, emf equation, basic synchronous machine models, equivalent circuit & phasor diagrams of synchronous machines, Saturation effect, armature reaction, open circuit short circuit & zero pf lag tests on synchronous machines, synchronous reactance, voltage regulation of alternators with constant synchronous reactance, load characteristics of alternator, Testing of synchronous generators, excitation systems of alternators.

UNIT-3Synchronous Machines: Generator input & output, characteristics parallel operation of synchronous machines, operation of synchronous machines with infinite bus bars, active & reactive power flows, general load diagram, V curve & Inverted V curves, steady state power angle characteristics, synchronizing torque, parallel operation of synchronous machines, effect of excitation on power factor, load sharing, effect of change in prime mover input.

UNIT-4 Synchronous Machines: Theory of Salient pole synchronous machines, two-reaction theory, phasor diagram, power angle characteristics, determination of X_d , X_q , stiffness of coupling, synchronous condenser, circle diagrams of synchronous motors, hunting in synchronous machines, damper winding, Testing of synchronous motor.

UNIT-5Polyphase Induction Machines: Cage & slip ring motors, frequency transformation and energy conversion, equivalent circuit, phasor diagram, normalized torque-speed (slip) relationships, starting & speed control of induction motors, cogging & crawling, double cage induction motors, testing of induction motors, circle diagram, induction generators.

Text Books

1. P.S. Bhimbra, Electric Machinery.(7th ed Khanna Pub
2. Nagrath & Kothari, Electric Machines.(2nd ed TMH)
3. J. B. Gupta.Electrical Machines(S.K.Kataria & sons)

Ref. Books

- 1 Filzgerald & Kingsely, Electric Machines.(6th ed TMH)
2. M .G. Say - Performance & Designing of AC Machines(3rd ed CBS Pub)
3. Mukharjee & Chakravarty, Electric Machines.(2nd ed Dhanpat Rai & Sons)
4. Electrical Machinery and Transformer by Guru, Oxford Publication

CHHATISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semester: 5th

**Branch: Electrical and
Electrical & Electronics
Code: 324512 (24)**

Subject: Electronic Instrumentation

Total Theory Periods: 40

Total Marks in End Semester Exam: 80

Minimum number of Class tests to be conducted: 2

UNIT I: Digital electronic instruments

Introduction, specifications of digital meters, resolution, sensitivity, accuracy, average/true root mean square, crest factor, form factor, normal mode rejection ratio, common mode rejection ratio, effective common rejection ratio, zero or offset frequency response, input resistance, input bias current. Digital voltmeters, Ramp technique, dual slope integrating type DVM, digital frequency meters, digital multimeters, digital tachometer, digital pH meter, digital phase meter, digital capacitance meter.

UNIT II: Transducers

Passive and active electrical transducers: resistive, capacitive, inductive, piezoelectric, photovoltaic, Hall effect transducers, selection of transducers, transducers characteristics, semiconductor photo-diode, photo transistor, frequency generating transducers, pressure inductive transducers, LVDT, differential output transducer, thermistor, strain gauge, measurement of angular and linear velocity using electrical transducers, reluctance pulse pick-ups, AC tachogenerators.

UNIT III: Data acquisition system (DAS) and recorders

Introduction of DAS, objective of DAS, signal conditioning of inputs, single and multi-channel DAS, computer based DAS, sample and hold, multiplexing, D/A, A/D conversion, general description of Data loggers, digital transducers, optical encoders, resistive digital encoders, shaft encoders.

Recorders: introduction, Strip chart recorders, general description of XY recorders, galvanometer type recorders, potentiometric recorders.

UNIT IV: Oscilloscope & Signal Generations

Introduction, Basic Principal, CRT Feature, Block diagram of oscilloscope, simple CRO, Vertical amplifier, horizontal deflecting system Triggered source CRO, typical CRT connection, measurement of Frequency & phase by Lissajous Figures, types of Probes, Passive & active voltage probes, Current probes, logic probes, Optical probes.

Signal generator: Introduction, sine wave generators, audio Frequency and Radio frequency signal generation, Function generators, Sequence & phase generators

UNIT V: PLC & Distributed control system (DCS)

PLC: Introduction of PLC, PLC structure & operations response time, Basic ladder diagram, PLC resistors, Timer & counters, PLC, DC & AC i/ps. Module for PLC, Basic Process of PLC, PLC Hard wear & Configuration PLC hard ware components.

DCS: Introduction, advantage & Disadvantage of DCS techniques, system Configuration, DCS Process Control.

Text Books:

1. Electronic Instrumentation by H S Kalsi.
2. Electronic Instruments and Instrumentation Technology" by M.M.S. Anand, PHI Pbs.

Reference Books:

1. "Electrical Measurement", Kalsi, TMH Pbs.
2. "Transducers And Instrumentation", Murthy, PHI Pbs.
3. "Electronic Instrumentation And Measurement Techniques", Cooper, PHI Pbs.

CHHATISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semester: B.E. V

**Branch: Electrical & Electronics
Electrical Engg.**

Subject: Communication System

Code: 324516 (24)

Total Theory Periods: 40

Total Tut Periods: 12

Total Marks in End Semester Exam: 80

Minimum number of Class tests to be conducted: 2

UNIT I: Signal Analysis

Fourier series, Fourier transform, continuous spectrum, Fourier transform of some simple functions, properties of Fourier transform, singularity functions, impulse function, Fourier transform of periodic signals, convolution, sampling theorem, external noise, internal noise, noise calculation, addition of noise due to several sources, noise in reactive circuits, noise figure, signal to noise ratio, noise temp, noise band width.

UNIT II: Amplitude Modulation

Need of amplitude modulation, Amplitude modulation, power relation. AM wave, generation of AM, balanced modular signal side band technique, suppression of unwanted sideband, side band transmission, demodulation, envelop detector, synchronous detector, noise in amplitude modulation system.

UNIT III: Angle Modulation

Mathematical equation of frequency modulation (FM), frequency spectrum, phase modulation (PM), relationship between PM and FM, pre-emphasis and de-emphasis, adjacent channel interference, comparison of narrow band and wide band FM, noise in angle modulation system, generation of FM, reactance modulator, frequency division multiplexing.

UNIT IV: Transmitter Rectifiers

AM transmitter, SSB transmitters, AM receiver, super-heterodyne receiver, automatic gain control, SSB receiver, FM transmitters, FM receivers.

UNIT V: Pulse Modulation System

Pulse width modulation, pulse position modulation (PPM), pulse code modulation, sampling, Quantization of signals, time division multiplexing.

Text Books:

1. "*Electrical Communication Systems*", Kennedy, TMH
2. "*An Introduction To Analog And Digital Communication*", Haykins, Wiley Pbs

Reference Books:

1. Analog and digital communication, Roden, PHI pbs.
2. Communication engineering, Singh & Sapre PubTMH Pbs

CHHATISGARH SWAMI VIVEKANAND TECHNICAL UNIVERSITY, BHILAI (C.G.)

Semester: 5th
Subject: Automatic Control System Lab.
Total practical periods: 50

Branch: Electrical & Electronics Engg.
Code: 325522 (25)
Total Marks in end Semester Exam: 40

List of experiments: (To be performed minimum 10 experiments)

- ✍✍ To determine the Gain of an Open Loop and Closed Loop System.
- ✍✍ To Study the Effect of Disturbance On an Open loop and Closed Loop System.
- ✍✍ To Determine the Transfer function of a DC Servomotor.
- ✍✍ To Study the time response of a second order system.
- ✍✍ Characteristics of Synchro Transmitter and Receiver Pair.
- ✍✍ Determination of Transfer Function of an AC Servomotor.
- ✍✍ To study a potentiometer as an Error Detector.
- ✍✍ Study of bode Plot of a Type 0, Type Type II Systems and I.
- ✍✍ Displacement Measurement using LVDT.
- ✍✍ Simulation of Transfer Function using Op-Amp (Analog Computer Trainer)
- ✍✍ Study of P, PI controller on second order system.
- ✍✍ Study of PID controller on second order system.
- ✍✍ To study the operation and Characteristic of a Stepper Motor.
- ✍✍ To study the Lag Compensator and Lead Compensator.
- ✍✍ To study the Lag-Lead Compensator.

Apparatus Required:

- ✍✍ An open and closed loop system with two input signals (one acting as reference and the other as the disturbance signal).
- ✍✍ A R-L or R-C Circuit, Bread board, CRO, Multimeters, Function Generator.
- ✍✍ Synchro Transmitter-receiver Pair.
- ✍✍ An AC Servomotor.
- ✍✍ A Potentiometer.
- ✍✍ Bode Plot Analyzer.
- ✍✍ Linear Variable Differential Transformer.
- ✍✍ Analog Computer trainer
- ✍✍ P, PI, PID Controller trainer.
- ✍✍ Stepper Motor.
- ✍✍ Lag Compensator, Lead Compensator, Lag-Lead Compensator.

Reference Books:

- ✍✍ Control System Engg. By Nagrath and Gopal, JW
- ✍✍ Linear control systems; Prof. B.S.Manke, Khanna Publication.

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

Semester : B.E. V

Subject: Microprocessor & Interfaces Lab

Total Practical Periods: 40

Total Marks in End Semester Examination: 40

Branch: Electrical & Electronics Engg.

Code: 325523 (25)

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 (C.G.)**

Semester : V

Branch: Electrical & Electronics Engg.

Subject: Linear Integrated Circuits & Applications Lab Code: 325524 (25)

Total Practical Periods: 40

Total Marks in End Semester Examination: 40

Experiments to be performed:

1. To design a Bistable multivibrator circuit and to draw its output waveform.
2. To design a Monostable multivibrator circuit and to draw its output waveform.
3. To design a Astable multivibrator circuit and to draw its output waveform.
4. To design an inverting amplifier using OPAMP (741) and study its frequency response.
5. To design a non-inverting amplifier using OPAMP (741) and study its frequency response.
6. To design a summing amplifier using opamp (741)
7. To design a differential amplifier using opamp (741) and find its CMRR.
8. To determine SVRR and slew rate of an opamp (741)
9. To design an astable multivibrator using 555 timer
10. To design a monostable multivibrator using 555 timer.
11. To design and study a diode clamper circuit.
12. To design and study diode series and shunt clipper.
13. To measure the input impedance of an voltage follower using opamp (741)
14. To design and study comparator circuit using opamp (741)
15. 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, Bhilai (C.G.)

Semester: B.E. V Sem.

Subject: Rotating Electrical Machines Lab.

Total Practical Periods: 40

Total Marks in End SEM Exam: 40

Branch: Electrical & Electronics Engg.

Code: 325521(25)

List of Experiments: (Minimum 10 Experiments)

1. Speed control of a three-phase induction motor.
2. To perform Load test on a three-phase induction motor.
3. To perform No Load test on a three-phase induction motor.
4. To perform Blocked rotor test on a three-phase induction motor.
5. To study of starting of Synchronous motor.
6. To plot V and inverse V curves of a Synchronous motor.
7. To conduct OC & SC tests on three-phase Alternator.
8. To study the synchronization of an alternator with the grid.
9. To find X_d & X_q of a salient pole synchronous machine by Slip test.
10. To determine sub transient direct axis X_d'' & quadrature axis X_q'' reactance of a salient pole synchronous machine.
11. Determination of negative & zero sequence reactance of synchronous generator.
12. Parallel operation of alternators.
13. Determination of vector group of three-phase transformer.
14. Parallel operation of three-phase transformers.
15. Study of single-phase motor starting methods.

List of Equipment / Machines required:

1. Wound Rotor Induction motor coupled with d.c. generator
2. Squirrel cage Induction motor coupled with d.c. generator
3. Squirrel cage Induction motor with brake drum arrangement
4. Synchronous motor coupled with DC generator
5. Synchronous induction motor coupled with Dc generator
6. Alternator coupled with DC Motor.
7. DC Power supply source

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 : 20 Mks

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 wining:** 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 Carnegie, A.H. Wheeler 2006.