

Course Name : Diploma in Electronics Engineering
Course Code : DEInE
Semester : Fourth
Subject Title : Electrical Machines
Subject Code : 133EX41

Teaching and Examination Scheme:-

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
3	-	3	3	80	32	20	100	40	50	20	-	-	25	10	175

Rationale:-

This subject is classified under core technology group which intends to teach facts, concepts, principles & procedure for operation & testing of electrical machines, such as DC generators, DC motors, single & three phase transformers and three phase induction motor. Student will be able to analyze the characteristics of DC motors, Transformers & Qualitative Parameters of these machines.

Objectives:-

Student will be able to

- 1) Know the constructional details & working principles of dc machines & transformers.
- 2) Test motors & transformers.
- 3) Evaluate the performance of dc motors & transformers by conducting various tests.
- 4) Decide the suitability of dc generator motor & transformer for particular purpose.
- 5) Write the specifications of dc machines & transformers as per requirement.
- 6) Operate any machine properly.

Learning Structure:-

Syllabus

Part I:- Theory

Sr. No	Contents	L	M
	Section I		
1	SINGLE PHASE TRANSFORMER 3.1 Introduction. 3.2 Construction. 3.2 Principle of operation. 3.3 Ideal transformer and actual transformer. 3.4 Equivalent circuit and phasor diagrams. 3.5 Test on transformer- Open circuit test. Short circuit test polarity test 3.6 Voltage regulation.	17	28

	3.7 Transformer losses & efficiency 3.8 Single phase auto transformer : Principle, advantages and disadvantages. 3.9 Parallel operation.		
2	DC MACHINES 1.1 Construction & working principle of DC machines. 1.2 Principle of operation. 1.3 Methods of excitation. 1.4 EMF equation. 1.5 Operating characteristics of DC Machines	07	12
	Section II		
3	DC MOTORS 2.1 Working, principle, back EMF, torque equation. 2.2 Starting of dc motor (series & shunt). 2.3 Speed control of dc motor. 2.4 Efficiency & testing of DC Motors. 2.5 Application of DC Motors	09	15
4	INDUCTION MOTOR 4.1 Construction. 4.2 Comparison with Transformer. 4.3 Principle of operation. 4.4 Phasor diagram & equivalent circuit. 4.5 Torque equation. 4.6 Torque v/s slip characteristics. 4.7 Performance of induction motor. 4.8 Determination of equivalent circuit parameters.	15	25
Total		48	80

Part II:- Practicals

List of Laboratory Experiments:-

- 1) To identify the constructional parts of D. C. machine.
- 2) Speed control of DC shunt motor.
- 3) Load test of DC shunt motor.
- 4) To measure the performance of single phase transformer by conducting O.C. and S.C. test.
- 5) Load test on transformer.
- 6) No load & block rotor test of a 3 phase induction motor.
- 7) Load test on 3 phase induction motor.

Text Book:-

Electrical Machines, 3rd Edition by S K Bhattacharya,

Tata McGraw- Hill Publishing Company Limited.

Reference Books:-

- 1) Electrical Machinery, 5th Edition by P.S. Bhimbra, Khanna Publishers.
- 2) Electrical Technology, 7th Edition by H. Cotton, CBS Publishers and Distributors.
- 3) Electrical Technology -Vol. II, 23rd Revised Edition by B.L Theraja , and A K Theraja, S Chand & Company Ltd.
- 4) Electrical Machines, 1st Edition by Samarjit Ghosh, Pearson Education

Course Name : Diploma in Electronics Engineering
Course Code : DEInE
Semester : Fourth
Subject Title : Electrical Networks - II
Subject Code : 133EX42

Teaching and Examination Scheme:-

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
3	1	-	3	80	32	20	100	40	--	--	--	--	25	10	125

Rationale:-

This is the second course which extends the network theory to frequency domain approach and the analysis concepts therein. Both the first and second course together will strengthen the fundamentals of the students as well as make the subject interesting to the teachers to teach. Synthesis gives the idea about concept of synthesis and stability of the given circuits and network functions.

Objectives:-

The students should be able to:

- 1) Analyze first and second order system response with dc inputs.
- 2) Apply Laplace Transform concept for first and second system in time response analysis of various R, L and C component series/parallel circuits.
- 3) Understand the concept of natural and forced response of systems.
- 4) Analyse one and two port network circuits and study their various parameters.
- 5) Do analysis and synthesis of one port network.

Syllabus

Sr. No	Contents	L	M
Section I			
1	Initial & Final Conditions in Networks Initial condition of networks, General and partial solutions, time constant, integrating factor, more complicated network, final (steady-state) conditions.	04	05
2	D.C Transient Response: Introduction, Transient Response of Series R-L Circuit, R-C Circuit & RLC Circuit with D.C. Excitation, , Natural and Forced response of the First and Second order systems. (Solving Differential Equations in Time Domain) Different Types of	10	15

	Second order Responses: Under-damped, Critically, over-damped and undamped.		
3	The Laplace Transformation & its application in Circuit Analysis Definition of Laplace transform, Laplace transforms of standard time signals: Unit-step, Unit Ramp, and Unit Impulse functions, The initial value and final value theorems, Transfer functions of R-L-C Series and parallel circuits.. Pole-zero plots, Natural and Forced response of the First and Second order systems.(Solving Differential Equations in complex Domain using Laplace transforms) Step & impulse Response of R-L & R-C Circuit.	10	20
Section II			
4	Network Functions One port networks-Driving point impedance and admittance. Two port networks- Transfer functions.	06	08
5	Two port Network Analysis: Admittance(Y) parameters, Impedance (Z) parameters, Hybrid (h) parameters, Transmission parameters and Equivalent circuits Diagram. Reciprocity and symmetry conditions, Interconnection of two port Network, Relationship between parameter Sets.	12	20
6	Network Synthesis: Synthesis of one-port networks, Hurwitz polynomial, Properties of Hurwitz Polynomial, positive real functions, Properties of PR Function. Foster and Cauer forms.	06	12
Total		48	80

Tutorials: At least 6 Problems on each subtopic.

Learning Resources:-

Text Book:-

1. W H Hayt, S M Durbin, J E Kemmerly, 'Engineering Circuit Analysis', 7th Edition Tata McGraw-Hill Education.
2. M. E. Van Valkenburg, 'Network Analysis', 3rd Edition, PHI Learning.
3. D. Roy Choudhury, 'Networks and Systems', 2nd Edition, New Age International.

Reference Books:

1. F. F. Kuo, 'Network Analysis and synthesis', John Wiley and sons.
2. N Balabanian and T.A. Bickart, 'Linear Network Theory: Analysis, Properties, Design and Synthesis', Matrix Publishers, Inc.
3. C. L. Wadhwa, 'Network Analysis and synthesis', New Age international.
4. B. Somanathan Nair, "Network Analysis and Synthesis", Elsevier Publications

Course Name : Diploma in Electronics Engineering
Course Code : DEInE
Semester : Fourth
Subject Title : Electronics – II
Subject Code : 133EX43

Teaching and Examination Scheme:-

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
3	-	2	3	80	32	20	100	40	25	10	-	-	25	10	150

Rationale:-

In Electronics – I the students were introduced to diodes, BJT & UJT. Their construction, characteristics and few applications were dealt with. In Electronics – II few more new semiconductor devices like FET will be introduced and other important applications of BJT & FET will be covered.

Objectives:-

The Students should be able to:

- 1) Explain the constructional and characteristic difference of different types of FET's.
- 2) Identify different types of FET biasing circuit.
- 3) Analyze JFET small signal amplifier circuits.
- 4) Analyze different types of Large Signal Amplifier circuits.
- 5) Explain the effects influencing the frequency response of amplifiers.
- 6) Provide working of different types of oscillator circuits.

Syllabus

Part I:- Theory

Sr. No.	Contents	L	M
Section I			
1	Field - Effect Transistors : Introduction, Construction & Characteristics of Junction Field Effect Transistor (JFET). Transfer characteristics. Their important specifications (parameters) mentioned in manufacturer's data sheets. Metal Oxide Semiconductor Field Effect Transistor (MOSFET). Depletion-type, Enhancement-type MOSFET's. Their construction, characteristics & parameters. Vertical MOSFET (VMOS) & Complementary MOSFET (CMOS). JFET Voltage Variable Resistor (VVR) and CMOS inverter switch applications.	10	16
2	FET Biasing:	07	12

	Fixed Bias, Self Bias and Voltage Divider biasing circuits of JFET. Biasing circuits of depletion and enhancement type MOSFET.		
3	JFET Small – Signal Analysis : Introduction, FET small signal model, JFET fixed bias, self bias voltage divider bias configurations. JFET source follower (Common Drain) configuration, JFET common gate configuration.	07	12
Section II			
4	BJT and FET Amplifier Frequency Response : Low frequency response of RC coupled, transformer coupled, direct coupled, Introduction to high frequency response of BJT and JFET (No detail analysis). Multistage (cascaded) frequency effects.	05	10
5	Differential Amplifiers: Voltage gain, input impedance and output impedance of (Dual Input Balanced Output, Dual Input Unbalanced Output, Single Input Balanced Output & Single Input Unbalanced Output, configurations of r_e model differential amplifiers). (No Derivations)	05	08
6	Large Signal (Power Amplifiers) : Introduction, Types: Class A series fed, Class A Transformer Coupled, Class B, Class AB, Class C & Class D amplifiers. Total Harmonic Distortion, Frequency Distortion. Necessity of Heat Sinks. IC Power Amplifiers: (Any one of the following to be studied: LM 380, LM 386, TBA810.	08	12
7	Feedback and Oscillator Circuits : Concept of negative & positive feedback.Types of negative feedback amplifier circuits. RC phase shift, Wien Bridge, Hartley and Colpitt Oscillator circuits.	06	10
Total		48	80

Part II:- Practicals

List of Laboratory Experiments:-

- 1) Study of N Channel JFET drain and transfer characteristics.
- 2) Study of N channel JFET small signal amplifier.
- 3) Study of JFET used as a shunt and series switch.
- 4) Low frequency response of single and two stage RC coupled BJT CE small signal amplifier. Calculation of bandwidth.
- 5) Study of RC Phase shift and Wien Bridge Oscillator circuits.
- 6) Study of Hartley or Colpitt Oscillator circuit.
- 7) To plot frequency response of any one of the following IC power amplifier: LM 380, LM 386, TBA810.

Learning Resources:-

Text Book:-

Electronic Devices and Circuit Theory, 9th Edition by Robert Boylestad & Louis Nashelsky, Prentice Hall India Private Limited.

Reference Books :-

- 1) Electronic Principles, 7th Edition by Albert Paul Malvino, (Tata McGraw - Hill Publishing Company Ltd).
- 2) Electronic Devices and Circuits, 5th Edition by David Bell, Oxford University Press.
- 3) Basic Electronics and Linear Circuits, 4th Edition by Bhargava, Kulshrestha and Gupta (Tata McGraw - Hill Publishing Company Limited).

Course Name : Diploma in Electronics Engineering
Course Code : DEInE
Semester : Fourth
Subject Title : Analog Integrated Circuits
Subject Code : 132EX44

Teaching and Examination Scheme:–

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
3	-	2	3	80	32	20	100	40	25	10	-	-	25	10	150

Rationale:-

Compared to discrete circuits Integrated Circuits offer advantages like miniaturization, more reliability, excellent thermal stability and lesser cost because of mass production. Analog ICs are widely used in computer industry, automobile industry, home appliances, medical field, communication, test & measuring instrumentation & other fields.

Objectives:-

Students should be able to:

1. Describe electrical characteristics and parameters of a standard Operational Amplifier.
2. Analyze effects of negative feedback on operational amplifier circuit.
3. Identify various linear and nonlinear applications of operational amplifier.
4. Describe the use of operational amplifier in waveform generator circuits.
5. Explain the working and applications of specialized integrated circuits.

Learning Structure:-

Syllabus

Part I:- Theory

Sr No	Contents	L	M
Section I			
1	Introduction to Operational Amplifiers : Block diagram representation of a typical OP-AMP, Schematic Symbol, Types of ICs, Development of ICs (SSI, MSI, LSI, VLSI Packages).	03	04
2	Interpretation of Data Sheets & characteristics of an OP-AMP : Electrical characteristics & Parameters of μ A741C OP-AMP, ideal OP-AMP, Equivalent circuit of OP-AMP, Ideal Voltage Transfer Curve, Open loop Configurations (differential, inverting & non-inverting amplifiers).	03	04
3	An OP-AMP with negative feedback : Block diagram representation of feedback configurations. Study of Voltage	06	12

	Series & Voltage Shunt Feedback Amplifiers (Closed loop voltage gain, input impedance, output impedance, bandwidth, total output offset voltage with feedback) , Voltage Follower. Study of Differential Amplifiers using one and three op-amps.		
4	General Linear Applications : DC & AC Amplifiers, AC Amplifiers with single supply voltage, Summing, Scaling & Averaging Amplifiers (inverting, non-inverting & differential). Voltage to current converter, Current to voltage converter applications. OP-AMP Integrator, Differentiator Circuits(Advantages over passive circuits) Active Filters : First order, Second order low pass, high pass filters, Bandpass & Bandreject Filters (Wide & Narrow), All Pass filters	12	20
Section II			
5	Non Linear Applications : Voltage comparators & op-amps.Study of Monolithic comparator IC LM339. Voltage comparator applications: Level Detector, on-off control, Window Detector, bar-graph meter, Pulse Width Modulation, Schmitt Trigger, Eliminating comparator chatter, hysteresis in on-off controller. Precision rectifiers (HWR & FWR), Peak Detectors, Sample & Hold circuits.	07	14
6	Signal Generators : Phase Shift & Wien Bridge Sine Wave Oscillators, Square Wave, Triangular Wave & Saw Tooth Wave Generators. Square wave generator using CD 4093 or 74HC7414 Schmitt Trigger IC's.	04	06
7	Specialized IC Applications : Timer IC 555: Monostable,Astable,Bistable, Schmitt Trigger & other circuits. Function Generator VCO IC 566 study and applications. Phase Locked Loop IC NE 565, its applications like frequency multiplier, FM Demodulation, Frequency Shift Keying Demodulation. Fixed Positive & Negative linear voltage regulator ICs 78XX, 79XX series. Adjustable voltage regulator IC LM 317 & LM 337. Introduction to Switching Regulators. (SMPS)	13	20
Total		48	80

Part II:- Practicals

List of Laboratory Experiments :-

- 1) Inverting, Non-Inverting, Voltage Follower, Inverting Adder, Differentiator, integrator applications using IC 741C OP-AMP.
- 2) Filter applications:Low pass, high pass, wide bandpass & narrow band reject (notch) using Wide Band OP-AMP OPA640P.
- 3) Square Wave Generator, Triangular Wave Generator using IC 741C.
- 4) Quad Comparator IC LM 339 applications like voltage level detector, Window Detector, Bar Graph Meter, astable multivibrator, Schmitt trigger & PWM.
- 5) Timer IC 555 applications like square waveform generator, ramp generator, Sequential timer, Schmitt trigger, missing pulse detector, frequency divider.

- Phase Shift & Wien Bridge Oscillator circuits using OP-AMP LF 351C.
PLL IC 565 used in frequency multiplier & frequency modulation circuit.
- 6) Precision Half Wave & Full Wave Rectifiers (Positive & Negative) using IC741.
 - 7) Square Waveform Generator using IC 74HC14 & CD4093 IC's.
 - 8) Sample and Hold circuit using CD4066 IC (Quad Bilateral Switch) & 741 IC

NOTE: The students must perform at least one experiment in **MULTISIM** software for each of the above syllabus topic.

Learning Resources:-

Text Book :-

OP-AMPS and Linear Integrated Circuits, 4th Edition by Ramakant A Gayakwad Prentice Hall of India Private Limited.

Reference Books :-

- 1) Operational Amplifiers and Linear Integrated Circuits by Robert F Coughlin & Fredrick F Driscoll. 6th Edition, Pearson Education Asia.
- 2) Design with Operational Amplifiers and Analog Integrated Circuits, 4th Edition, by Sergio Franco (Tata McGraw - Hill Publishing Company Ltd).

Course Name : Diploma in Electronics Engineering
Course Code : DEInE
Semester : Fourth
Subject Title : Instrumentation
Subject Code : 133EX45

Teaching and Examination Scheme:-

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
3	-	2	3	80	32	20	100	40	50	20	-	-	25	10	175

Rationale:

The main objective of introducing this subject in the diploma course of Electronics is to expose the student with fundamental knowledge on Modern Engineering practices that require adequately precise and fast measurement. It will impart knowledge related to the applications of the different types of sensors and transducers while teaching the various topics of this course.

After studying the course the students will be able to identify different types of sensors and transducers and their applications in the field of instrumentation and measurements. The students will be able to select appropriate transducers relating to a process and will also get the relevant technical know how about the conditioning of a signal from a transducer for the purpose of measurement.

Objectives:

Student will be able to:

1. Understand the Basic Principle of Measurement.
2. Understand the basic principles of sensors and transducers
3. Exploit each sensors & transducers for measurement of large number of variables.
4. Select the most suitable transducer based on its performance characteristics, for specific measuring tasks.
5. Select the appropriate transducers/sensor for various applications of Measurement of non-electrical quantity in Industrial process
6. Understand the process of Data acquisition.
7. Compare different types of transducer on their performance characteristics and applications

Syllabus

Part I:- Theory

Sr. No.	Contents	L	M
Section I			
01	Basic concepts and Classification :- Introduction, System Configuration, Problem Analysis, Basic Characteristics of Measuring Devices, Error,	03	6

	Calibration Transducers- Classification and requirements, Selection Criteria, Types.		
02	Displacement and Strain: LVDT, RVDT, Capacitive, Resistive, Principle of Working, Advantages, Disadvantages and Applications. Strain Gauge- Types of strain gauge, theory of operation of resistance strain gauge, types of electrical strain gauge, Load cell, Strain Gauge Circuits.	08	12
03	Pressure Measurement: Pressure -Absolute, Gauge, Atmospheric, Vacuum. definition, Concept and Units, Manometers, Elastic Pressure Transducers – Bourdon Tube, Bellows, Diaphragm, Capsule, Variable Reluctance type, Variable capacitance type, Thin film pressure transducer, Digital pressure transducer Calibration of Pressure Instruments – Dead Weight Tester	08	12
04	Flow measurement Head type flow meters, Turbine Meters, Electromagnetic flow meters, Anemometer, Rotameter, Ultrasonic flow meters.	05	10
Section II			
05	Temperature Measurement Temperature Scales and their Conversion. Principle of Working, Construction, Advantages & Disadvantages and Applications of- Filled Systems – Liquid and Gas Filled thermometers, Bimetallic Thermometers, RTDs, Thermocouples – Seebeck & Peltier Effect, Law of Intermediate Metals and Temperatures, Pyrometers – Radiation and Infrared	06	12
06	Photoelectric transducer Photo Multiplier tube, Photo conductive cell, Photo voltaic cell, Semiconductor Photo Diode, Photo transducer, LASER, Photo Modules for PCM Remote control systems using IC TSOP1736/ TSOP1738 Electronic Transducers- Speed, Tachogenerators – A.C. & D.C., Non-Contact Type – Photoelectric, Magnetic Pick Up Type	09	14
07	A-D and D-A Converters A-D and D-A converter specifications and performance characteristics, A-D Converters, D-A Converters Data Acquisition Generalized Data Acquisition System, Multi-channel DAS, Data logger, PC based Data Acquisition System.	09	14
	Total	48	80

Part II:- Practicals

List of Laboratory Experiments:

1. To study Instrumentation Amplifier using 3 op-Amps.
2. To plot the Characteristics of Thermocouple.
3. To plot the Characteristics of Thermister.

4. Speed Measurement by using photoelectric pick- up.
5. Speed Measurement by using Magnetic pick- up.
6. Displacement or Position Measurement by Ultrasonic distance meter.
7. Displacement Measurement using LVDT.
8. Angular Displacement Measurement using RVDT
9. To study characteristics of resistance wire strain gauge.

Learning Resources:

Text Books:-

1. Instrumentation Devices and Systems, 2nd Edition, by Rangan Mani Sharma, Tata McGraw – Hill.
2. Transducers and Instrumentation 1st Edition, by D.V.S. Murthy, Prentice-Hall of India Pvt. Ltd.
3. Industrial Instrumentation and Control, 3rd Edition by S.K.Singh, Tata McGraw –Hill.
4. Principles of Industrial Instrumentation, 2nd Edition by D.Patranabis, Tata McGraw- Hill.
5. Instrumentation Measurement and Analysis, 2nd Edition, by B.C.Nakra, & K.K.Chawdhry, Tata McGraw- Hill.

Reference Books:-

1. A Course In Electrical & Electronics Measurements & Instrumentation by A.K.Sawhney, Dhanpat Rai & Co.
2. Process Measurement - Instrument Engineers Handbook, 3rd Edition by Bela Liptak Kriszta Venczel, Chilton Book Company.
3. Process Measurement and Analysis, 'Instrument Engineers Handbook' Volume I, 4th Edition, by B.G. Liptak, CRC Press

Course Name : Diploma in Electronics Engineering
Course Code : DElnE
Semester : Fourth
Subject Title : 'C' Programming
Subject Code : 132EX46

Teaching and Examination Scheme

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		OR		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
2	-	2	-	-	-			50	20	-	-	50	20	100	

Rationale:-

The C programming language is a procedural programming language. Contrary to popular opinion it is not a dead language. It is still used quite often with low level programming (i.e. embedded systems, operating systems, drivers). The name is due to the fact that it was built using many of the features of the previous B programming language. Contrary to one of the answers you don't write your entire program in one file unless you are a really bad programmer.

Objectives:-

The students should be able to:

- 1) Explain the concepts of constants, variables, data types and operators.
- 2) Develop programs using input and output operations.
- 3) Write programs using different looping and branching statements.
- 4) Write programs based on arrays and strings handling functions.
- 5) Write programs using user-defined functions, structures and union.
- 6) Write programs using C pointers.

Learning Structure:-

Syllabus

Part I:- Theory

Sr. No	Contents	L	M
1	Introduction to C Constants, variables, character set, data types, operators (Arithmetic, Logical, Conditional, Relational, increment & decrement, bit wise, special operator precedence), Expressions.	04	10
2	Decision Making & Looping		

	If statement (if, if – else, else-if ladder, nested if-else, switch case Statement, break statement). While, do, do-while statements. For loop, continue statement.	06	15
3	Arrays & Strings Declaration, initialization of one dimensional, two dimensional And character arrays, assessment of array elements. Declaration, Initialization of string variables, string handling Functions from standard library.	06	15
4	Functions Need of function, Scope & lifetime of variable, defining function, Function call (call by value, call by reference) return values, Storage classes. Function category (No argument no return value, no argument With return value, argument with return value type), Recursion.	06	15
5	Structures Defining, declaring and accessing structures members. Structure initialization, structure arrays. Pointers Introduction, declaring & accessing pointers, pointers arithmetic, Pointers & array	06	15
6	Introduction to the object oriented programming(oops) The foundation of oops: Objects and its characteristic (State, Behavior, Unique identity), Classes. Characteristic of oop (Realistic Modeling, Reusability, Flexibility to change, Existences as Different form), phases of oop (Analysis, Design, Implementation)	04	10
	Total	32	80

Part II:- Practicals

List of Laboratory Experiments:-

Write a program in C language

- 1) To print any character like ‘ @ ‘ or our college name.
- 2) To find the greatest/smallest of the given three numbers.
- 3) To check whether given number is odd or even.
- 4) To display MENU 1 ADDITION, 2 SUBTRACTION, 3 MULTIPLICATION & 4 DIVISION using switch case statement
- 5) To display all even no. from 1-100.
- 6) To arrange the given array in ascending and descending order.
- 7) To demonstrate output of standard library function using string length, strcpy, strcmp.
- 8) To calculate area of circle & rectangle using functions.
- 9) To find factorial of given number by recursion method.
- 10) To demonstrate call by reference and call by value.

11) To maintain and manipulate student data using structure.

Text Book:-

- 1) Programming in C, 4th Edition, by Balaguruswamy, (Tata McGraw - Hill Publishing Company Limited).

Reference books:

- 1) Let us 'C', 9th Edition, by Yashwant P Kanetkar (BPB Publications).
- 2) The complete reference C, 4th Edition by Herbert Schildt, McGraw-Hill, Osborne Media.

Course Name : Diploma in Electrical Engineering
Course Code : DEE/DEInE
Semester : IV
Subject Title : Development of Life Skills
Subject Code : 133EX47

Teaching and Examination Scheme:-

Teaching Scheme			Paper Hours	Examination Scheme												Total Marks
L	T	P		Theory		Test	Total		P		OR		TW			
				Max	Min		Max	Min	Max	Min	Max	Min	Max	Min		
-	-	2	-	-	-	-	-	-	-	-	-	-	-	25	10	25

Rationale:

In today's competitive world, the nature of organizations is changing at very rapid speed. In this situation the responsibility of diploma holder is not unique. He will be a part of a team in the organization. As such the individual skills are not sufficient to work at his best. This subject will develop the student as an effective member of the team. It will develop the abilities and skills to perform at highest degree of quality as an individual as well as a member of core group or team. Such skills will enhance his capabilities in the field of searching, assimilating information, managing the given task, handling people effectively, and solving challenging problems.

Objectives:

The students will be able to:

1. Developing working in teams
2. Apply problem solving skills for a given situation
3. Use effective presentation techniques
4. Apply techniques of effective time management
5. Apply task management techniques for given projects
6. Enhance leadership traits
7. Resolve conflict by appropriate method
8. Survive self in today's competitive world
9. Face interview without fear
10. Follow moral and ethics
11. Convince people to avoid frustration

Syllabus

Part I:- Theory

Sr. No	Contents	L
	Section I	
1	Social Development 1.1 Oral Skills	08

	1.1.1 Social Awareness 1.1.2 Basic Journalism (Description and Narration) 1.1.3 Debate 1.1.4 Speech 1.2 Writing Skills 1.2.1 Formats 1.2.2 Legal documentation Basics 1.2.3 Technical Paper Presentation 1.2.4 Reports	
2	Managerial Development 2.1 Management 2.1.1 Time Management 2.1.2 Stress Management 2.1.3 Conflict Management 2.1.4 Resource management 2.2 Etiquettes 2.2.1 Verbal 2.2.2 Corporate 2.2.3 Mail and Telephone 2.2.4 Body language	08
	Section II	L
3	Life Skill Development 3.1 Emotional Quotient 3.2 Nurturing Social Relationships 3.3 Event Organization 3.4 Surveying 3.5 Role Play	08
4	Academic Development 4.1 Verbal and Vocabulary Development 4.2 Notes preparation and Summarization 4.3 PowerPoint Presentations 4.4 Technical Interview Sessions 4.5 Viva And Written Exam Techniques	08
	Total	48

Course Name : Diploma in Electronics Engineering

Course Code : DEInE

Semester : Fourth

Subject Title : Student Centered Activity/Test

Teaching Scheme			Paper Hours	Examination Scheme										Total Marks	
L	T	P		Theory		Test	Total		P		O		TW		
				Max	Min		Max	Min	Max	Min	Max	Min	Max		Min
-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	

Rationale:–

Most of the diploma holders join industries. Due to globalization and competition in the industrial and service sectors the selection for the job is based on campus interviews or competitive tests.

While selecting candidates a normal practice adopted is to see general confidence, ability to communicate and attitude, in addition to basic technological concepts.

The purpose of introducing professional practices is to provide opportunity to students to undergo activities which will enable them to develop confidence. Expert lectures, E-learning sources, E-library, Internet, seminars on technical topics and group discussion are planned in a semester so that there will be increased participation of students in learning process.

Objectives:

The Student will be able to:

1. Acquire information from different sources
2. Prepare notes for given topic
3. Present given topic in a seminar
4. Interact with peers to share thoughts
5. Take the advantages of E-learning sources