

Faculty of Engineering & Technology
P.K.University
Shivpuri (MP)



Evaluation Scheme & Syllabus for
DIPLOMA

Electronics & Communication Engg.
(V Semester)

(Effective from session 2025-26)

Study And Evaluation Scheme For Diploma Electronics & Communication Engg.

SEMESTER-V

SUBJECTCODE	SUBJECTSNAME	STUDY SCHEME Periods/ Week			Credits	Marks In Evaluation Scheme						Total Marks of Internal & External
						INTERNAL ASSESSMENT			EXTERNAL ASSESSMENT			
		L	T	P		Th	Pr	Tot	Th	Pr	Tot	
DINDUEI501	Industrial Management & Entrepreneurship Dev.	4	-	-	4	30	-	30	70	-	70	100
DELECEC502	Electronics Instruments & Measurement	3	1	-	4	30	-	30	70	-	70	100
DAUDIEC503	Audio & Video Engg.	3	1	-	4	30	-	30	70	-	70	100
DOPTIEC504	Optical Fibre Engg.	3	1	-	4	30	-	30	70	-	70	100
DINTEEC505	Integrative Communication Lab	0	0	2	1	-	25	25	-	25	25	50
DELECEC506	Electronics Instruments & Measurement Lab	0	0	2	1	-	25	25	-	25	25	50
DAUDIEC507	Audio & Video Engg. Lab	0	0	2	1	-	25	25	-	25	25	50
DOPTIEC508	Optical Fibre Engg. Lab	0	0	2	1	-	25	25	-	25	25	50
DINDUEC509	Industrial Training	-	-	-	2	-	-	-	-	-	50	50
Total		16	4	6	22	120	100	220	280	100	430	650

Department of Electronics & Communication Engineering
(Faculty of Engineering & Technology)
P.K. University, Shivpuri (MP)
III Year V Semester

DINDUEC501
INDUSTRIAL MANAGEMENT AND ENTREPRENEURSHIP DEVELOPMENT
(L-T-P-4-0-0)

DETAILED CONTENTS

1. Principles of Management

- 1.1 Management, Different Functions: Planning, Organising, Leading, Controlling.
- 1.2 Organizational Structure, Types, Functions of different departments.
- 1.3 Motivation: Factors, characteristics, methods of improving motivation, incentives, pay, promotion, rewards, job satisfaction, job enrichment.
- 1.4 Need for leadership, Functions of a leader, Factors for accomplishing effective leadership, Manager as a leader, promoting team work.

2. Human Resource Development

- 2.1 Introduction, objectives and functions of human resource development (HRD) department.
- 2.2 Recruitment, methods of selection, training strategies and career development.
- 2.3 Responsibilities of human resource management – policies and functions, selection – Mode of selection – Procedure – training of workers, Job evaluation and Merit rating.

3. Wages and Incentives

- 3.1 Definition and factors affecting wages, methods of wage payment.
- 3.2 Wage incentive – type of incentive, difference in wage, incentive and bonus; incentives of supervisor.
- 3.3 Job evaluation and merit rating.

4. Human and Industrial Relations

- 4.1 Industrial relations and disputes.
- 4.2 Relations with subordinates, peers and superiors.
- 4.3 Characteristics of group behaviour and trade unionism.
- 4.4 Mob psychology.
- 4.5 Grievance, Handling of grievances.
- 4.6 Agitations, strikes, Lockouts, Picketing and Gherao.
- 4.7 Labour welfare schemes.
- 4.8 Workers' participation in management.

5. Professional Ethics

- 5.1 Concept of professional ethics.
- 5.2 Need for code of professional ethics.
- 5.3 Professional bodies and their role.

6. Sales and Marketing management

- 6.1 Functions and duties of sales department.
- 6.2 Sales forecasting, sales promotion, advertisement and after sale services.
- 6.3 Concept of marketing.
- 6.4 Problems of marketing.
- 6.5 Pricing policy, break even analysis.
- 6.6 Distribution channels and methods of marketing.

7. Labour Legislation Act (as amended on date)

- 7.1 Factory Act 1948.
- 7.2 Workmen's Compensation Act 1923.
- 7.3 Apprentices Act 1961.

- 7.5 Industrial Dispute Act 1947.
- 7.6 Employers State Insurance Act 1948.
- 7.7 Payment of Wages Act, 1936.
- 7.8 Intellectual Property Rights Act
- 8. **Material Management**
 - 8.1 Inventory control models.
 - 8.2 ABC Analysis, Safety stock, Economic ordering quantity.
- 8.3 Stores equipment, Stores records, purchasing procedures, Bin card, Cardex.
- 8.4 Material handling techniques.
- 9. **Financial Management**
 - 9.1 Importance of ledger and cash book.
 - 9.2 Profit and loss Account, Balance sheet.
- 9.3 Interpretation of Statements, Project financing, Project appraisal, return on investments.
- 10. **Entrepreneurship Development**
 - 10.1 Concept of entrepreneur and need of entrepreneurship in the context of prevailing employment conditions.
 - 10.2 Distinction between an entrepreneur and a manager.
 - 10.3 Project identification and selection.
 - 10.4 Project formulation.
 - 10.5 Project appraisal.
 - 10.6 Facilities and incentives to an entrepreneur.
- 11. **Fundamental of Economics**
 - 11.1 Micro economics.
 - 11.2 Macro economics.
- 12. **Accidents and Safety**
 - 12.1 Classification of accidents based on nature of injuries, event and place.
 - 12.2 Causes and effects of accidents.
 - 12.3 Accident-prone workers.
 - 12.4 Action to be taken in case of accidents with machines, electric shock, fires and erection and construction accidents.
 - 12.5 Safety consciousness and publicity.
 - 12.6 Safety procedures.
 - 12.7 Safety measures – Do's and Don'ts and good housing keeping.

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III Year V Semester

DELECEC502
ELECTRONIC INSTRUMENTS & MEASUREMENTS

(L-T-P-3-1-0)

1. INTRODUCTION TO THE PROCESS OF MEASUREMENTS:

- 1.1 Review of the terms, accuracy, precision, sensitivity range and errors, difference between accuracy, precision and resolution.
- 1.2 Precaution against high frequency noise pick up and remedies, shielding and grounding (two terminal and three terminals).
- 1.3 Concept of selective wide band measurements.

2. MULTIMETERS:

- 2.1 Principle of measurement of D.C. voltage and D.C. current, A.C. voltage and A.C. current and resistance in a multimeter.
- 2.2 Specifications of a multimeter and their significance.
- 2.3 Limitations with regards to frequency and impedance.

3. ELECTRONIC MULTIMETER:

- 3.1 Advantage over conventional multimeter for voltage measurement with respect to input impedance and sensitivity, principles of voltage, current and resistance measurements.
- 3.2 Specification of electronic multimeter and their significance.

4. A. C. MILLIVOLTMETER:

- 4.1 Types of AC millivoltmeters: Amplifier-rectifier and rectifier amplifier, block diagram and explanation of the above types of A.C. milli voltmeter.
- 4.2 Typical specifications and their significance.

5. CATHODE RAY OSCILLOSCOPE:

- 5.1 Construction of CRT, Electron gun, Electrostatic focusing and acceleration (Explanation only-no mathematical treatment) Deflection sensitivity, Brief mention of screen phosphor for CRT. Internal Block Diagram of CRO.
- 5.2 Explanation of time base operation and need for blanking during flyback, synchronisation.
- 5.3 Block diagram and explanation of a basic CRO and a triggered sweep oscilloscope, front panel controls.

- 5.4 Specifications of CRO and their significance.
- 5.5 Use of CRO for the measurement of voltage (D.C. & A.C.) frequency using Lissajous figure, time period, phase.
- 5.6 Special features of dual trace, delayed sweep and storage CROs (Brief mention only).
- 5.7 CRO probes including current probes.
- 5.8 Working Principle of Spectrum Analyzer.

6. AUDIO POWER METER:

- 6.1 Block diagram of an audio power meter.
- 6.2 Principles of working its application and high frequency limitations.
- 6.3 Scale conversion from power to db.

7. SIGNAL GENERATORS:

- 7.1 Block diagram explanation of laboratory type low frequency and RF signal generators, pulse generator and function generator.
- 7.2 Specification for low frequency signal generator, RF generator, pulse generator and function generator. Brief idea of testing specification for the above instruments.
- 7.3 Standard signal generator.

8. IMPEDANCE BRIDGES Q METERS:

- 8.1 D.C. and A.C. Bridges :
D.C. bridges- Wheat stone bridge, Kelvins bridges, Sensitivity- Null indicators.
A. C. Bridges - Inductance bridges (Maxwell bridge), Capacitance bridges, Hays bridge, Anderson bridge, Schering bridge, Wein bridge, Twin network, Storage factor, Dissipation factor and their measurements.
- 8.2 Block diagram explanation and working principle of laboratory types (balancing type) RLC bridge. Specifications of a RLC bridge, Principle of digital RLC bridge.
- 8.2 Block diagram and working principles of a Q meter.

9. REGULATED POWER SUPPLY:

- 9.1 Block diagram of regulated power supply, IC based power supply.
- 9.2 Major specifications of regulated power supply, & their measurement (line and load regulation, output ripple and transients).
- 9.3 Basic working principles of switched mode power supply.
- 9.4 Concept of floating and grounded power supplies and their interconnections to obtain multiple output supplies.
- 9.5 Basic working principle of uninterruptible power supply

10. DIGITAL INSTRUMENTS:

- 10.1 Comparison of Analog and Digital instruments, characteristics of digital meter.
- 10.2 Working principle of Ramp, Dual slope and integrating type of digital voltmeter.
- 10.3 Block diagram and working of a digital multimeter.

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III Year V Semester
DAUDIEC503
AUDIO AND VIDEO ENGINEERING

(L-T-P-3-1-0)

DETAILED CONTENTS

1. ELECTRO ACOUSTIC TRANSDUCERS:

- 1.1 Microphones-carbon, condensor, moving coil, crystal, ribbon and lavalier microphones, their construction and basic working principles, frequency response, impedance, sensitivity & directional patterns, typical applications of different types of microphones.
Idea of other commercial microphones.
- 1.2 Loudspeakers-direct radiating and horn loader type their construction, working principles characteristics and applications. Baffles and Enclosures. Introduction to tweeters and woofers and crossover networks, Speakers column.

2. SOUND RECORDING:

Magnetic Recording :

- 2.1 Basic Idea about Sound Recording on Magnetic Tape and its reproduction.
- 2.2 Optical Recording of Sound : Basic ideas of optical recording of sound on films and its reproduction
- 2.3 Digital Recording of Sound :
Basic ideas of Digital Recording and Reproduction of Sound. Basic concepts of sampling quantization, aliasing and encoding. formats of digital audio recording, basic of recording-Servo system. Material and formation of CD, Block diagram of audio CD player. Description of its main block.

3. HI-FI STEREO AND ITS SYSTEM:

- 3.1 General ideas about public address system and its block diagram. Concept of Fidelity, noise and different types of distortions in an audio system. Stereophony, comparison of monophonic and stereophonic sound. Brief description of stereophonic recording on tape. Block diagram of hi-fi stereo system, Function of bass, Treble, Loudness and Balance control. Consequences of mismatch between amplifier output and speaker impedance. Need for a multi-speaker column. Cross over network in speaker columns.

4.A. INTRODUCTION TO TV COMMUNICATION:

- 4.1 Elements of telecast TV chain giving elementary idea of the role of TV camera, TV transmitter, propagation of signal, reception through antennas, TV receiver.
- 4.2 Brief mention of other types of TV communication such as CCTV, CATV, MATV, Satellite TV and their applications.
- 4.3 Brief mention of factors affecting range of TV coverage such as:-
 - (a) Line of sight propagation.
 - (b) Effect of earth's curvature.

- (c) Receiving and transmitting antenna heights.
- (d) Power of transmitter.

4.B. PRINCIPLES OF SCANNING AND FORMATION OF COMPOSITE VIDEO SIGNALS:

- 4.1 Basic of photoelectric conversion from scene to electrical signal through camera tube.
- 4.2 Sequential and interlaced scanning, line frequency field frequency.
- 4.3 Concept of :-
 - (a) Field and Frame.
 - (b) Persistence of vision and flicker.
 - (c) Picture element.
 - (d) Aspects ratio.
- 4.4 Frequency range of various bands and channels in the VHF range used in India.
- 4.5 Channel specifications :
 - 4.5.1 Channel frequency limits, vision and sound carrier frequencies.
 - 4.5.2 Need for VSB and VSB specifications.
 - 4.5.3 Vision bandwidth, vision modulation types, sound bandwidth, sound modulation type, reasons for employing AM for vision FM for sound and negative modulation for TV transmission, Composite Video Signal.

5. CAMERA TUBES:

Basic concepts of Signal tube colour camera, its construction and working

6. PICTURE TUBE:

- 6.1 Basic principle of operation and working B and W picture tube, its mounting and adjustment of Yoke.
- 6.2 Brief idea about delta gun and guns in line picture tube.
- 6.3 Construction and working of single gun(Trinitron) picture tube

7. FUNDAMENTAL OF COLOUR SIGNAL:

- 7.1 Basic idea about primary and complementary colour (Why, Red, Blue and Green are used as primary colour).
- 7.2 Production of Luminance and colour difference signal.

8. COLOUR CAMERA :

- 8.1 Digital colour camera system. Basic idea of construction and working.
- 8.2 Solid state imagers.

9. NTSC & PAL FUNDAMENTALS:

- 9.1 Basic principles of NTSC & PAL system.
- 9.2 Basic principle of QAM (Quadrature Amplitude Modulation)
- 9.3 Basic principle of PAL-S, PAL-D and Synchronous demodulation
- 9.4 Block diagram of NTSC and PAL coder and decoder, function of each block

10. VIDEO DISPLAY UNITS (VDU):

- 10.1 Block diagram and specifications of colour VDU and function of each block.
- 10.2 Interfacing of VDU with computers.
- 10.3 Basic idea about LCD/Plasma/LED monitor
- 10.4 Remote controlling of Electronic Devices (Basic Idea).
- 10.5 Basic Idea of construction and working of HDTV.

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III Year V Semester
DOPTIEC504
OPTICAL FIBRE ENGINEERING

(L-T-P-3-1-0)

DETAILED CONTENTS

1. FUNDAMENTAL OF OPTICS :

1. Nature of Light :

- 1.1 Electromagnetic nature of light.
- 1.2 Principle of reflection, refractions, polarization.
- 1.3 Basic principle of optical communication.

2. Introduction To Optical Fibre :

- 2.1 Classification of fibre
- 2.2 Physical structure.
- 2.3 Electromagnetic mode theory for optical propagation - Electromagnetic waves, Modes in planar guide, Modes in cylindrical fiber phase and group velocity.

2. OPTICAL DEVICE :

1. Optical Sources :

- 1.1 Direct and indirect band gap semiconductors.
- 1.2 Internal and external quantum efficiency.
- 1.3 Principle, characteristics and construction of LED.
- 1.4 Semiconductor Lasers - Laser action, PN junction laser, Fabry- Perot resonators.

2. Detectors :

- 2.1 Introduction
- 2.2 Photodiode- Material and types.
- 2.3 Avalanche Photo Diode (APD), PIN diode.
- 2.4 Temperature effect on avalanche gain, noise in APD.
- 2.5 Photo transistor, PIN-FET, Photo darlington.
- 2.6 Response time, BW, Noise equivalent power, responsivity.
- 2.7 Spectral response, dark current and quantum efficiency.

3. CONNECTORS, SPLICERS AND SPLITTERS :

- 3.1 Need of connectors.
- 3.2 Types of connectors.
- 3.3 Single and multimode fiber connectors.
- 3.4 Need and splicing.
- 3.5 Types of splicing. Optical Fibre Budget.
- 3.6 Different splicing techniques.
- 3.7 Splitters.

4. COUPLERS AND CABLE

4.1 Need and types of couplers.

4.2 Source of fiber couplers, Fiber to Fiber couplers, Fiber to detector couplers.

4.3 Intrinsic and Extrinsic coupling loss.

4.4 Reasons and types - Under ground, Under sea and over head.

4.5 Elements of cable structure and its characteristics.

4.6 Cable installation and design consideration.

4.7 Cable jacketing, cable laying, Transport and handling.

3. OPTICAL MEASUREMENT :

3.1 Introduction.

3.2 Transmission loss measurements - Fiber attenuation, Fiber absorption loss measurement, Fiber scattering loss measurement.

3.3 Fiber dispersion measurements - Time Domain and Frequency Domain measurements.

3.4 Fiber cut off wave length, Fiber numerical aperture measurements.

3.5 Optical Power Budget.

4. OPTICAL COMMUNICATION :

4.1 Introduction of light wave.

4.2 Types of modulation, ON-OFF modulation

4.3 Analog and Digital transmission.

4.4 Audio Video and Data transmission.

4.5 Computer communication using RS 232 Port.

4.6 Coherent System.

Department of Electronics & Communication Engineering

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III Year V Semester

DINTEEC505

INTEGRATIVE COMMUNICATION - LAB

(L-T-P-0-0-2)

INTERPERSONAL SKILLS

1. Interpersonal Relationship and Communication

INTERPERSONAL RELATIONSHIP , Forms of Interpersonal Relationship, Must Have in an Interpersonal Relationship, Interpersonal Relationship between a Man and a Woman (Passion, Intimacy, Commitment), Relationship Between Friends, ROLE OF COMMUNICATION IN INTERPERSONAL RELATIONSHIP (Take Care Of Your Tone And Pitch, Choice of Words is Important in Relationships, Interact Regularly, Be Polite, Try To Understand The Other Person's Point Of View As Well, Individuals Can Also Communicate Through Emails,

UNDERSTANDING OTHERS

2. Leadership Traits & Skills :

Introduction, Important Leadership Traits (Alertness, Bearing, Courage, Decisiveness, Dependability, Endurance, Enthusiasm, Initiative, Integrity, Judgment, Justice, Knowledge, Loyalty, Sense of Humour), Other Useful traits (Truthfulness, Esprit-de-corps, Unselfishness, Humility and sympathy, Tact without loss of moral courage, Patience and a sense of urgency as appropriate, Self confidence, Maturity, Mental including emotional stability)

3. Attitude

Types of Attitude, Components of Attitudes (Cognitive Component, Affective Component, Behavioral Component), Types of Attitudes (Positive Attitude, Negative Attitude, NeutralAttitude, Rebellious Attitude, Rational and Irrational Attitudes, Individual and Social Attitudes), Kinds of Attitude, ASSERTIVENESS, How to Develop Assertiveness (Experiment and Try New Things, Extend Your Social Circle, Learn to Make Decisions for Yourself, Indulge in Knowledge, Admire Yourself & Others), Negotiation (Be Sensitive to The Needs Others, Be Willing To Compromise, Develop Your Problem-Solving Skills, Learn to Welcome Conflict, Practice Patience, Increase Your Tolerance For Stress, Improve Your Listening Skills, Learn To Identify Bottom-Line Issues Quickly, Be Assertive, NotAggressive)

4. . Interview Skills (2 sessions from Industry Expert is Compulsory)

Curriculum Vitae (When Should a CV be Used, What Information Should a CV Include, personal profile, Covering Letter, What Makes a Good CV, How Long Should a CV Be, Tips on Presentation), Different Types of CV (Chronological, Skills- Based),
BEFORE THE INTERVIEW , CONDUCTING YOURSELF DURING THE INTERVIEW , FOLLOWING THROUGH AFTER THE INTERVIEW ,
Interview Questions To Think About ,

MOCK INTERVIEW – Activity (MOCK INTERVIEW EVALUATION - NON-VERBAL BEHAVIORS, VERBAL BEHAVIORS, General Etiquettes to face the Board , Telephonic interview

5. Conflict Motives –Resolution

Motives of Conflict(Competition for Limited Resources, The Generation Gap and Personality Clashes, Aggressive Personalities, Culturally Diverse Teams, Competing Work and Family Demands, Gender Based Harassment), Merits and Demerits of Conflict , Levels of Conflict (Interpersonal Conflict,

Role Conflict, Inter-group Conflict, Multi-Party Conflict, International Conflict), Methods of Conflict Resolution (The Win- Lose Approach, The Lose-Lose Strategy, The Win-Win Approach), Techniques for Resolving Conflicts (Confrontation and Problem Solving Leading to Win-Win, Disarm the Opposition, Cognitive Restructuring, Appeal to Third Party, The Grievance Procedure)

6. Negotiation / Influencing Skills

Why Influencing, What Is Influencing, TYPES OF INFLUENCING SKILLS (Probing And Listening, Building Rapport, Sign Posting, Pacing, Selling, Assertiveness), LAWS AND PRINCIPLES OF INFLUENCE, The Six Laws of Influence (The Law of Scarcity, The Law of Reciprocity, The Law of Authority, The Law of Liking, The Law of Social Proof, The Law of Commitment and Consistency), Influencing Principles (Making a Start, Buy Yourself Thinking Time, Dealing With Disagreement, Difficult And Sensitive Situations)

7. Sociability : Etiquettes And Mannerism & Social Skills

Need for Etiquette , Types of Etiquettes (Social Etiquette, Bathroom Etiquette, Corporate Etiquette, Wedding Etiquette, Meeting Etiquette, Telephone Etiquette, Eating Etiquette, Business Etiquette, E-Mail Etiquettes,), MANNERISMS, HOW TO IMPROVE YOUR SOCIAL SKILLS (Be Yourself, Be Responsible, Be Open & Approachable, Be Attentive, Be Polite, Be Aware, Be Cautious)

8. Importance of Group / Cross Cultural Teams / Team Work skills

Introduction,

Types and Characteristics of Groups (Definition of a Group, Classification / Types of Groups, Friendship Group, Task Group, Formal Groups, Informal Group, Effective Group),

Importance of a Group, Characteristics of a Mature Group, TYPES AND CHARACTERISTICS OF A TEAM (Definition of a Team, Types of Teams, Functional Teams, Problem Solving Teams, Cross - Functional Teams, Self - Managed Teams), Importance of a Team, Characteristics of a Team

VALUES / CODE OF ETHICS

Meaning, A FEW IMPORTANT VALUES (Honesty, Integrity, Purity, Discipline, Selflessness, Loyalty, Fairness, Equality, Trust, Support, Respect, etc)

Note : One Orientation module for the faculty is must. Involvement of Industry Experts is necessary for Interview Skills

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III Year V Semester

DELECEC506
ELECTRONIC INSTRUMENTS AND MEASUREMENT- LAB

(L-T-P-0-0-2)

LIST OF PRACTICALS

1. Loading effect of a multimeter and its limitations to measure high frequency voltages.
2. Measurement of Q of a coil and its dependence on frequency using a Q meter.
3. Measurement of voltage, frequency, time period, phase angle and delay time using CRO : (use of Lissagious Figures).
4. Measurement of time period, frequency, average period using universal counter frequency counter.
5. To test a power supply for ripple, line and load regulation, Tracing of wave form, To findout operating range of power supply.
6. Measurement of rise, fall and delay time using a CRO.
7. Measurement of distortion of a LF signal generator using distortion factor meter.
8. Measurement of R.L. and C using a LRC bridge/universal bridge.

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III Year V Semester
DAUDIEC507
AUDIO AND VIDEO ENGINEERING LAB
(L-T-P-0-0-2)

LIST OF PRACTICALS

1. Study of different features and Measurement of directivity of various types of microphones and loudspeakers. (Approximate).
2. Frequency response of crossover networks in speaker columns.
3. Installation and operations of PA system. (Preferably in auditorium).
4. To study the operation and control of DVD player and identification of main stages and components.
5. Familiarisation with the physical layout, location of stages (transistors, ICs), major components, measurement of D.C. voltage & tracing of signal in Colour TV receiver. The student should be required to identify components from circuit diagram with physical layout of corresponding parts and marks hazardous areas.
6. Familiarisation with all controls and effects of adjustments of controls on the performance of a Colour TV receiver.
7. Fault finding in each stage of a TV receiver.
8. To study the installation process of DTH system.

NOTE:-

1. A demonstration model of a Colour TV receiver should be developed in the lab itself to perform the above related experiments.
2. Visit to the nearest TV studio and transmitter is necessary for idea of digital video communication.

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III Year V Semester

DOPTIEC508
OPTICAL FIBRE ENGINEERING LAB

(L-T-P-0-0-2)

LIST OF PRACTICALS

1. Study of reflection of light.
2. Study of LED characteristics.
3. Study o Laser characteristics
4. Study of Optical detector characteristics
5. Study of different connectors.
6. Study of different splicers.
7. Study of different couplers and splitters.
8. Measurement of connectors loss.
9. Measurement of splice loss.
10. Measurement of coupling loss.

Study of dispersion loss in Fiber.

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DINDUEC509:INDUSTRIAL TRAINING

It is needless to emphasize further the importance of Industrial Training of students during their 3 years of studies at Polytechnics. It is industrial training, which provides an opportunity to students to experience the environment and culture of industrial production units and commercial activities undertaken in field organizations. It prepares student for their future role as diploma engineers in the world of work and enables them to integrate theory with practice. Polytechnics have been arranging industrial training of students of various durations to meet the above objectives.

This document includes guided and supervised industrial training of 4 weeks duration to be organized during the semester break starting after second year i.e. after 4th semester examinations. The concerned HODs along with other teachers will guide and help students in arranging appropriate training places relevant to their specific branch. It is suggested that a training schedule may be drawn for each student before starting of the training in consultation with the training providers. Students should also be briefed in advance about the organizational setup, product range, manufacturing process, important machines and materials used in the training organization.

Equally important with the guidance is supervision of students training in the industry/organization by the teachers. Students should be encouraged to write daily report in their diary to enable them to write final report and its presentation later on.

An external assessment of 50 marks has been provided in the study and evaluation scheme of 5th Semester. Evaluation of professional industrial training report through viva-voce/presentation aims at assessing students understanding of materials, industrial process, practices in industry/field organization and their ability to engage in activities related to problem solving in industrial setup as well as understanding of application of knowledge and skills learnt in real life situations.

Teachers and students are requested to see the footnote below the study and evaluation scheme of 4th semester for further details.

The teacher along with field supervisors will conduct performance assessment of students. The components of evaluation will include the following:

Punctuality and regularity 15%
Initiative in learning new things 15%
Presentation and VIVA 15%
Industrial training report 55%