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SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – V

INTRODUCTION TO MICROPROCESSOR

Sub. Code: DECE 501 **Credits: 02**

Total Marks: 100 **Minimum Pass Marks: 40%**

Internal Assessment: 40 Marks **University Examination: 60 Marks**

Unit 1:
Organization of a Microcomputer System and Functions of its Various Blocks;

Unit 2:
Concept of Bus and Bus Organization of 8085; Functional Block Diagram of 8085 and Function of Each Block

Unit 3:
Memory Organization; Concept of Memory Mapping; Partitioning of Total Memory Space; Address Decoding; Concept of I/O.

Unit 4:
Brief Idea of Machine and Assembly Languages; Machines and Mnemonic Codes; Instruction Format and Addressing Modes.

Unit 5:
Instruction Cycle, Machine Cycle and T-States; Fetch and Execute Cycle.

Unit 6:
Concept of Interrupt; Maskable and Non-Maskable. Servicing Interrupts; Extending Interrupt System.

Unit 7:

Concept of Programmed I/O Operations; Sync Data Transfer (Hand Shaking); Interrupt Driven Data Transfer; DMA; Serial Output Data; Serial Input Data.

Unit 8:

8255 PPI and 8253 PIT; 8257 DMA Controller; 8279 Programmable.

Suggested Readings:

1. Microprocessor Architecture, Programming and Applications with 8080/8085, Ramesh S Gaonker, Willey Eastern Ltd.
2. Microprocessor and Microcontrollers, Dr BP Singh, Galgotia Publications.

Note:

1. Eight questions are to be set. Students will have to attempt five questions in all.
2. Use of non-programmable scientific calculator is allowed in Examination Hall.

SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – V

PRINCIPLE OF COMMUNICATION ENGINEERING

Sub. Code: DECE 502 **Credits: 02**

Total Marks: 100 **Minimum Pass Marks: 40%**

Internal Assessment: 40 Marks **University Examination: 60 Marks**

Unit 1:
Classification of Transmitters on the Basis of Modulation, Service, Frequency and Power, Block Diagram of AM Transmitters and Working of Each Stage.

Unit 2:
Principle and Working with Block Diagram of Super Heterodyne of AM Receiver; Function of Each Block and Typical Waveforms at Input and Output of Each Block; Performance Characteristics of Radio Receiver.

Unit 3:
Electromagnetic Spectrum and its Various Ranges: VLF, LF, MF, HF, VHF, UHF, Microwave; Antennas-Brief Description; Characteristics and Typical Applications of Half Wave Dipole; Yagi and Ferrite Rod Antenna

Unit 4:
Basic Idea about Different Modes of Wave Propagation and Typical Areas of Application; Ground Wave; Space Wave Communication: Line of Sight Propagation

Unit 5:
Advantages of Fibre Optic Communication; Block Diagram of a Fibre-Optic Communication Link;: Diode, Laser, LEDs and their Characteristics; Light Detectors and their Characteristics.

Unit 6:
Basic Idea; Passive and Active Satellites.

Suggested Readings:

1. Electronic Communication Systems, George Kennedy, Tata McGraw Hill.
2. Principles of Communication Engineering, A.K. Gautam, SK Katria and Sons.

Note:

1. Eight questions are to be set, at least one question from each unit. Students will have to attempt five questions in all.
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SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – V

INDUSTRIAL ELECTRONICS

Sub. Code: DECE 503 **Credits: 02**

Total Marks: 100 **Minimum Pass Marks: 40%**

Internal Assessment: 40 Marks **University Examination: 60 Marks**

Unit 1:
Power Diode, Power MOSFET, IGBT: Construction & Working Principle.
Comparative Study of Important Performance Parameters of Power BJT, MOSFET & IGBT

Unit 2:
Thyristors: Construction, Working Principle, DIAC. TRIAC and UJT; UJT as Relaxation Oscillator.

Unit 3:
Single Phase Half Wave & Full Wave Controller; Single Phase Cycloconverter; Single Phase PWM AC Voltage Controllers.

Unit 4:
Principle of Step Up/Step Down Operation; Classifications: A.B.C.D.E; Buck, Boost, Buck-Boost and Cuk Regulators;.

Unit 5:
Bridge: Principle of Operation; Single Phase Bridge Inverter: Operating Principle.

Unit 6:
Overview of SMPS; its Merits Linear Regulated DC Power Supplies. UPS: Operating Principle.

Unit 7
Basic Characteristics of DC Motors;; Application of Different Single Phase Converters and Chopper Drives in Motor Control.

Unit 8: Induction and Dielectric Heating: Principle, Characteristic Features and Control.

Suggested Readings:

1. Power Electronics, Jacob, Vikas Publishing House

2. Power Electronics: Circuits, Devices & Applications, M H Rashid, Pearson Publishing..
3. Power Electronics, M D Singh & K B Khanchandani, Tata McGraw Hill.
4. Modern Power Electronics, B.K. Bose, Jaico Publishing.

Note:

1. Eight questions are to be set. Students will have to attempt five questions in all.
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SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – V

ELECTRONIC DESIGN AND FEBRICATION TECHNIQUES

Sub. Code: DECE 504 **Credits: 02**

Total Marks: 100 **Minimum Pass Marks: 40%**

Internal Assessment: 40 Marks **University Examination: 60 Marks**

Unit 1:
Small Power Transformer; Simple Power Supply using Full Wave Rectifiers and Different Types of Filters; Simple Zener Regulated Power Supply. .

Unit 2:
Printed Circuit Boards (PCBs): PCB Board Materials, their Characteristics and Plating, Corrosion and its Prevention; Photo Processing, Screen Printing.

Unit 3:
Storage and Supply of Components for Assembly; Role of Incoming Inspection of Components; Assembly Line Reduction; Tools and Jigs for Lead Bending.

Unit 4:
Jigs and Fixtures for Operational Testing of Modules/Subassemblies; Sequence Testing for Failure Analysis; Association with Environmental Testing Pin,

Unit 5:
Production Planning**;** CNC Drilling; Photo Plating

Suggested Readings:

1. Electronic Fabrication, Gordon T. Shimizu, Delmar Publishers.
2. Printed circuits handbook, Clyde F. Coombs, McGraw-Hill

Note:

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SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – V

INDUSTRIAL MANAGEMENT

Sub. Code: DECE 505 **Credits: 02**

Total Marks: 100 **Minimum Pass Marks: 40%**

Internal Assessment: 40 Marks **University Examination: 60 Marks**

Unit 1:
Management; Administration and Organization; Difference between them; Scientific Management: Meaning, Characteristics, Object and Advantage; Taylor's Scientific Management; Types of Organization, Different Types and their Charts; Leadership Qualities; Motivation.

Unit 2:
Introduction, Object and Functions of Human Resource Development Department; Recruitment, Sources and Methods of Selection; Need for Effective Training; Method of Training; Duties of Supervisor / Forman; Role of HRD in Industries.

Unit 3:
Definition and Requirements of a Good Wage System Method of Wage Payment; Wage Incentives: Type of Incentive, Difference in Wage Incentive and Bonus, Incentive to Supervisor.

Unit 4:
Purchasing Functions and Duties of Purchase Department. Tender: Necessity, Types of Tenders, Tendering Procedure,. Store and Store Keeping: Functions and Duties of Store Department, Location and Layout of Store., Sales: Function and Duties of Sales, Department Sales Promotion Advertisement, Service after Sales.

Unit 5:
Idea of Income Tax, Sales Tax, Excise Duty and Custom Duty; Industrial and Fire Insurance; Procedure for Industrial Insurance.

Unit 6:
Industrial Acts: Factory Act 1948; Workmen's Compensation Act 1923; Apprentices Act 1961; Water Pollution Contract Act 1974 and 1981; Air Pollution Contract Act 1981; Environmental Protection Act 1986; Forest (Animal Conservation Act 1972); Pollution Control Provisions In Motor Vehicle Act.

Suggested Readings:

1. Industrial Management,V.K. Sharma & O.P. Harkut, Khanna Publishers
2. Industrial Engineering. & Management, O.P. Khanana, Dhanpat Rai Publications
3. Industrial Engineering. & Management, T.R. Banga, Khanna Publishers

Note:

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