SYLLABUS
DIPLOMA IN ELECTRONICS AND COMMUNICATION ENGINEERING
SEMESTER – VI

COMMUNICATION SYSTEMS

Sub. Code: DECE 601 **Credits: 02**

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

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

Unit 1:
Basic Block Diagram of Digital and Data Communication Systems.

Unit 2: Introduction to Various Common Codes; 5 Bit Baudot Code, 7 Bit ASCII, ARQ, and EBCDIC;

Unit 3: Basic Block Diagram Amplitude Shift Keying. ASK, Frequency Shift Keying; Phase Shift Keying

Unit 4:
Introduction; Bandwidth Requirements; Data Transmission Speeds; Noise; Cross Talk; Echo Suppressors; Distortion; Equalizers.

Unit 5:
UART and USART: Their Need and Function in Communication Systems.
Modems: Need and Function of Modems, Mode of Modems Operation: Low Speed, Medium
Telemetry: Radio-Telemetry and its Application, Block Diagram of TDM and FDM Telemetry System

Unit 6:
Typical Telephone Network; Various Switching Offices: Regional Centre, District Centre, Toll Centre, Local Office and their Hierarchy.

Suggested Readings:

1. Electronic Communication Systems, George Kennedy, Tata McGraw Hill.
2. Communication System II, Gurvinder Singh & Others, India publication House.
3. Communication System II, Yogesh Chabra, Eagle Parkashan.

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
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SEMESTER – VI

TV ENGINEERING

Sub. Code: DECE 602 **Credits: 02**

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

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

Unit 1:
Elements of TV Communication System; Scanning: It's Need for Picture Transmission, Need for Synchronizing and Blanking Pulses; Progressive Scanning; Gross Structure; Interlaced Scanning.

Unit 2:
Monochrome Picture Tube: Construction and Working, Comparison of Magnetic and Electric Deflection of Beam; Construction and Working of Camera Tube; Vidicon and Plumbicon; Block Diagram of TV Camera and the Transmitter Chain; Block Diagram of a TV Receiver.

Unit 3:
Primary Colours; Tristimulus Values; Trichromatic Coefficients; Concepts of Additive and Subtracting Mixing of Colours; Concepts of Luminance; Hue and Saturation; Representation of a Colour in Colour Triangle. Block Diagram of Colour TV Camera.

Unit 4:
Introduction to PAL, NTSC, SECAM Systems; Advantages and Disadvantages; Block Diagram of Video Camera and its Explanation.

Unit 5:
Block Diagram and Principles of Working of Cable TV and DTH; Cable TV using Internet.

Suggested Readings:

1. Colour Television: Principles & Practice, R.R Gulati, Wiley Eastern Limited.
2. Complete Satellite & Cable Television, R.R Gulati, New age International.

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SEMESTER – VI

PRINCIPLE OF MICROWAVE ENGINEERING

Sub. Code: DECE 603 **Credits: 02**

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

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

Unit 1:
Introduction to Microwaves and its Applications; Classification on the Basis of its Frequency Bands: HF, VHF, UHF, L, S, C, X, KU, KA, mm, SUB, mm.

Unit 2
Basic Concepts of Thermoinic Emission and Vacuum Tubes; Effects of Inter-Electrode Capacitance Lead Inductance and Transit Time on the High Frequency Performance of Conventional Vacuum Tubes; Steps to Extend their High Frequency Operations.

Unit 3:
Rectangular and Circular Wave Guides; their Applications; Mode of Wave Guide; Propagation Constant of a Rectangular Wave Guide.

Unit 4:
Constructional Features; Characteristics and Application of Tees, Bends, Matched Termination, Coaxial to Wave Guide Adapter.

Unit 5:
Structure Characteristics and Typical Applications of Horn and Dish Antennas

Unit 6:
Block Diagram and Working Principles of Microwave Communication Link; Troposcatter Communication: Troposphere and its Properties.

Suggested Readings:

1. Microwave Devices and Components, Sylio, Prentice Hall of India.
2. Electronics Communication, Roddy and Coolen, Prentice Hall of India.
3. Electronics Communication System, KS Jamwal, Dhanpat Rai & Sons.

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 – VI

COMPUTER ARCHITECTURE AND ORGANIZATION

Sub. Code: DECE 604 **Credits: 02**

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

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

Unit 1:
Micrometer Organization; 8086/8088 Microprocessor; its Architecture; Various Types of Digital Buses; Serial I/O Ports: Com 1 and 2, Parallel Ports.

Unit 2:
The Basic Principles of the Working of Video Monitors; Video Display Adapters: Monochrome and Colour Graphic; Video Modes

Unit 3:
The Basic Principles of the Working of a Keyboard; Scan Modes.

Unit 4:
Constructional Features of Hard Disk, Floppy Disk and their Drives: HDD and FDD; Logical Structure of a Disk and its Organization: Boot Record, File Allocation Table (Fat), Disk Directory, Data Source.

Unit 5:
Basic Features of Various other Peripheral Devices: Mouse, Printer: DMP, Inkjet, Laser, Scanner, Plotter, Digitizer and Modem.

Unit 6:
SMPS used in PC and its Various Voltages; Basic Idea of Constant Voltage Transformer (CVT); Uninterrupted Power Supply (UPS): Offline and Online.

Unit 7: The Basic Idea of BIOS and DOS Services for Diskette; Serial Port; Keyboard; Printer and Misc. Services.

Suggested Readings:

1. Computer Architecture & Organization, Hayes, McGraw Hill.
2. Computer Architecture (Schaum Series), Carter, Tata McGraw Hill

Note:

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2. Use of non-programmable scientific calculator is allowed in Examination Hall.