HUM-202-E                          FUNDAMENTALS OF MANAGEMENT

L  T  P                          Class Work : 50 Marks
3  1  -                          Theory: 100 Marks
                              Total: 150 Marks
                              Duration of Exam: 3 Hrs.

UNIT-I

Meaning of management, Definitions of Management, Characteristics of management, Management Vs.
Administration. Management-Art, Science and Profession. Importance of Management. Development of
Management thoughts.
Principles of Management. The Management Functions, Inter-relationship of Managerial functions.

UNIT-II

Nature and Significance of staffing, Personnel management, Functions of personnel management,
Manpower planning, Process of manpower planning, Recruitment, Selection; Promotion - Seniority Vs. Merit.
Training - objectives and types of training.

UNIT-III

Production Management : Definition, Objectives, Functions and Scope, Production Planning and Control; its
significance, stages in production planning and control. Brief introduction to the concepts of material management,
inventory control; its importance and various methods.

UNIT-IV

Marketing Management - Definition of marketing, Marketing concept, objectives & Functions of
marketing. Marketing Research - Meaning; Definition; objectives; Importance; Limitations; Process. Advertising - meaning of
advertising, objectives, functions, criticism.

UNIT-V

Introduction of Financial Management, Objectives of Financial Management, Functions and Importance of
Financial Management. Brief Introduction to the concept of capital structure and various sources of finance.

BOOKS RECOMMENDED :

TEXT BOOKS :
1. Principles and Practice of Management - R.S. Gupta, B.D.Sharma, N.S. Bhalla. (Kalyani Publishers)

REFERENCE BOOKS :
1. Principles & Practices of Management – L.M. Prasad (Sultan Chand & Sons)

NOTE: Eight questions are to be set atleast one question from each unit and the students will have to attempt five
questions in all.
**MATH-202-E**
**NUMERICAL METHODS**

(Common for EE, EL, CHE, EI, IC & Elective for CSE, IT in 8th SEM.)

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**Part-A**

Interpolation and curve fitting: Interpolation problem, Lagrangian polynomials, Divided differences, Interpolating with a cubic spline, Bezier curves and B-spline curves, Least square approximations.

Non-Linear Equations: Bisection method, Linear Interpolation methods, Newton's method, Muller's method, fixed-point method.


Numerical Differentiation and Integration: Derivatives from differences tables, Higher order derivatives, Extrapolation techniques, Newton-cotes integration formula, Trapezoidal rule, Simpson's rules, Boole's rule and Weddle's rule, Romberg's Integration.

**Part-B**


Numerical Solution of Partial Differential Equations: Finite difference approximations of partial derivatives, solution of Laplace equation (Standard 5-point formula only), one-dimensional heat equation (Schmidt method, Crank-Nicolson method, Dufort and Frankel method) and wave equation.

**TEXT BOOKS:**

**REFERENCE BOOKS:**
2. Introductory Methods of Numerical Analysis S.S. Sastry, P.H.I.

Note: Examiner will set eight questions, taking four from Part-A and four from Part-B. Students will be required to attempt five questions taking at least two from each part.

EE-202-E ANALOG ELECTRONICS

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UNIT 1 SEMICONDUCTOR DIODE:
P-N junction and its V-I Characteristics, P-N junction as a rectifier, Switching characteristics of Diode.

UNIT 2 DIODE CIRCUITS:
Diode as a circuit element, the load-line concept, half-wave and full wave rectifiers, clipping circuits, clamping circuits, filter circuits, peak to peak detector and voltage multiplier circuits.

UNIT 3 TRANSISTOR AT LOW FREQUENCIES:
Bipolar junction transistor: operation, characteristics, Ebers-moll model of transistor, hybrid model, h-parameters (CE, CB, CC configurations), analysis of a transistor amplifier circuits using h-parameters, emitter follower, Miller's Theorem, frequency response of R-C coupled amplifier.

UNIT 4 TRANSISTOR BIASING:
Operating point, bias stability, collector to base bias, self-bias, emitter bias, bias compensation, thermistor & sensistor compensation.

UNIT 5 TRANSISTOR AT HIGH FREQUENCIES:
Hybrid P model, CE short circuit current gain, frequency response, alpha, cutoff frequency, gain bandwidth product, emitter follower at high frequencies.

UNIT 6 FIELD EFFECT TRANSISTORS:
Junction field effect transistor, pinch off voltage, volt-ampere characteristics, small signal model, MOSFET Enhancement & Depletion mode, V-MOSFET. Common source amplifier, source follower, biasing of FET, applications of FET as a voltage variable resistor (V V R).

UNIT 7 REGULATED POWER SUPPLIES:
Series and shunt voltage regulators, power supply parameters, three terminal IC regulators, SMPS.

TEXT BOOK:
1. Integrated Electronics: Millman & Halkias; McGrawHill
2. Electronic circuit analysis and design (Second edition): D.A.Neamen; TMH

REFERENCE BOOKS:
1. Electronics Principles: Malvino; McGrawHill
2. Electronics Circuits: Donald L. Schilling & Charles Belove; McGrawHill
NOTE: Eight questions are to be set in all by the examiner taking at least one question from each unit. Students will be required to attempt five questions in all.

EE-204-E DIGITAL ELECTRONICS

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CLASS WORK : 50
EXAM : 100
TOTAL : 150
DURATION OF EXAM : 3 HRS

UNIT 1 FUNDAMENTALS OF DIGITAL TECHNIQUES:

UNIT 2 COMBINATIONAL DESIGN USING GATES:
Design using gates, Karnaugh map and Quine Mccluskey methods of simplification.

UNIT 3 COMBINATIONAL DESIGN USING MSI DEVICES
Multiplexers and Demultiplexers and their use as logic elements, Decoders, Adders / Subtractors, BCD arithmetic circuits, Encoders, Decoders / Drivers for display devices.

UNIT 4 SEQUENTIAL CIRCUITS:

UNIT 5 DIGITAL LOGIC FAMILIES:
Switching mode operation of p-n junction, bipolar and MOS devices. Bipolar logic families: RTL, DTL, DCTL, HTL, TTL, ECL, MOS, and CMOS logic families. Tristate logic, Interfacing of CMOS and TTL families.

UNIT 6 A/D AND D/A CONVERTERS:
Sample and hold circuit, weighted resistor and R-2R ladder D/A Converters, specifications for D/A converters. A/D converters: Quantization, parallel-comparator, successive approximation, counting type, dual-slope ADC, specifications of ADCs.

UNIT 7 PROGRAMMABLE LOGIC DEVICES:
ROM, PLA, PAL, FPGA and CPLDs.

TEXT BOOK :
1. Modern Digital Electronics (Edition III) : R. P. Jain; TMH

REFERENCE BOOKS :
1. Digital Integrated Electronics : Taub & Schilling; MGH
2. Digital Principles and Applications : Malvino & Leach; McGraw Hill.
3. Digital Design : Morris Mano; PHI.

NOTE : Eight questions are to be set in all by the examiner taking at least one question from each unit. Students will be required to attempt five questions in all.
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