

Management Information System

MIE 121

Semester: Second

Credit: 4

Internal: 40

Full Marks: 100

Final Exam: 60

Course Objectives:

This includes coverage of design and implementation of MIS, networks and data communications, managerial decision making, and managerial aspects of organizational information systems.

Unit 1: Foundation of Information system

6 Hrs

- Information systems in organization
- Data and information
- Information as resource
- Types of information systems
- Decision making with MIS
- Managing information systems in organization

Unit 2: MIS in a digital firm

8 Hrs

- Management Information system and its importance in organization
- Role and impact of MIS
- Management effectiveness and MIS
- Contemporary approaches to MIS
- Components of MIS
- Development process of MIS
- Strategic design of MIS
- Business process Re-Engineering

Unit 3: Information Systems, Organizations, management and strategy 10 Hrs

- The changing role of information systems in organizations
- Managers, decision making and information system
- Information system and business Strategy

Unit 4: Information technology Infrastructure 10 Hrs

- Technology of Information systems
- Managing data resources
- Telecommunications and Networks
- Database and client server architecture
- Data Warehouse
- e-business technology

Unit 5: Applications of MIS 10 Hrs

- Applications in manufacturing and service sector
- Applications in internet based business sector
- Applications in decision support systems and knowledge management
- Applications in monitoring organizational performance and information security and control

Unit 6: Ethical and social impact of Information systems 6 Hrs

- Ethical and social issues related to systems
- Ethics in an information society
- The moral dimensions of information systems

Unit 7: Case studies 10 Hrs

References:

1. Management Information Systems, Waman S Jawadekar
2. Management Information Systems: Managing the Digital Firm (9th Edition) by Kenneth C. Laudon, Jane P. Laudon .
3. MIS: Managing information systems in business, government and society, Rahul De, Wiley India
4. Essentials of Management Information Systems by Kenneth C. Laudon, Jane P. Laudon .
5. Management information systems by James A O' Brien, George M. Marakas, Ramesh Behl

Advanced Database Management System
MISE 122

Semester: Second

Credit Hour: 4

Full Marks: 100

Nature of the course: Theory

General Objectives;

- * Visualize the detailed concept of DBMS.
- * Conceptualize the importance of using Relational Algebra, SQL.

Specific Objectives;

Specific objectives of this course are;

- * to make the student realize the importance of DBMS.
- * to clarify the various DBMS concepts
- * to familiarize the students with the techniques of keeping data secured
- * to familiarize the students with giving the concept of transaction processing, distributed database, database administration and data mining.

COURSE CONTENT

Unit 1 Introduction 5

- 1.1 Introducing the Course
- 1.2 Concepts of data , data base and DBMS
- 1.3 Levels of Abstraction
- 1.4 Increasing trends of storage space required
- 1.5 Need of having DBMS

Unit 2 Relational Algebra 10

- 2.1 Basic Concepts
- 2.2 DDL & DML
- 2.3 Structure of Relational Databases
- 2.4 Fundamental Relational-Algebra-Operations
- 2.5 Additional Relational-Algebra-Operations
- 2.6 Extended Relational-Algebra-Operations
- 2.7 Null Values
- 2.8 Modification of the Database

Unit 3 SQL/Advanced SQL 10

- 3.1 General Concepts
- 3.2 Basic Structure of SQL Queries
- 3.3 Various Examples related with SQL queries

3.4 SQL Data type & Schemas	
3.5 Integrity Constraints	
3.6 Advanced SQL Features	
Unit 4 <i>Relational Database Design</i>	5
4.1 Functional Dependencies and Normal Forms	
4.2 Atomic Domains	
4.3 Decomposition using Functional Dependencies	
Unit 5 <i>Application Design & Development</i>	5
5.1 User Interface & tools	
5.2 Web Fundamental, Servlets and JSP	
5.3 Authorization in SQL	
5.4 Application Security	
Unit 6 <i>Transaction Processing: Concurrency Control and Recovery</i>	7
6.1 Transaction Concept	
6.2 Atomicity and Durability	
6.3 Concurrent Execution	
6.4 Serializability & Recoverability	
6.5 Concurrency Control Protocols	
6.6 Deadlock Handling	
6.7 Recovery Model of various failures	
Unit 7 <i>Introduction to Object Oriented Database</i>	3
7.1 General Concepts	
7.2 Inheritance in SQL	
7.3 Object Identity and reference type in SQL	
7.4 Object Oriented Vs. Object Relational	
Unit 8 <i>Introduction to distributed Database</i>	3
8.1 General Concepts	
8.2 Distributed Transaction	
8.3 Concurrency Control	
8.4 Query Processing	
Unit 9 <i>Data Base system Architecture</i>	5
9.1 Client/Server Architecture	
9.2 3 tier architecture	
9.3 Distributed Systems	
Unit 10 <i>Advanced Transaction Processing</i>	7
10.1 Transactional Workflows	
10.2 E-Commerce	
10.3 Real Time Transaction	
10.4 Long Duration Transaction	
10.5 Transaction Management in Multidatabase	
<i>References</i>	
1. Database System Concepts, Silberschatz, Korth, & Sudarshan	

Telecommunication N/W

MI E 12 3

Semester: II

✓ Credit Hour: 4

Full Marks: 100

Nature of Course: Theory

General Objective:

The objective of this course is to provide the student with an understanding of the evolution of telecommunication networks from traditional Public Switched Telephone Network (PSTN), through the emergence of data networks, local area networks, integrated services digital network (ISDN), development of fast packet switching, to the Internet.

Specific Objectives

- To understand the key theoretical concepts in communications system engineering,
- To be familiar with the working of the various types of commonly used communication systems
- To be able to design some of the communication systems

COURSE CONTENTS

Unit 1: Introduction

6Hrs

- 1.1 Overview on Telecommunications
- 1.2 Evolution and History
- 1.3 Telecommunications in Nepal
- 1.4 Role of Telecommunications in the overall development of nation
- 1.5 Role of ICT in the overall development of a nation

Unit 2: Telecom Policies

- 2.1 Policy, Legal, Regulatory framework of telecommunication/ICT in Nepal
- 2.2 Operational Framework of Telecommunications/ICT sector in Nepal

Unit 3: Telecom Regulatory Bodies for Standardization

6 Hrs

- 3.1 Administrative Organizations: ITU, National PTTs, APT, FCC
- 3.2 Standardization Bodies: ITU-T, ITU-R, ISO, ETSI, etc.

Unit 4: Transmission Media

8 Hrs

- 4.1 Transmission Media: Copper Pairs; Optical Fibers; Radio Waves
- 4.2 Overview on Transmission Systems
- 4.3 Microwave Radio Relay Lines
- 4.4 Satellite Communications Networks
- 4.5 Optical Fiber Communication Networks
- 4.6 Mobile Communication Systems
- 4.7 Wireless Local Loop Systems

Unit 5: Switching Techniques

5 Hrs

- 5.1 Circuit Switching
- 5.2 Packet Switching

Unit 6: Strategy Formulation: Business strategy

6 hrs

Porter's Competitive Strategies: low cost, differentiation, focus, Cooperative Strategies: collusion, strategic alliances, mutual service consortia, joint venture, licensing agreement

Unit 7: Strategy Formulation: Functional Strategy and Strategic Choice

3 hrs

Internal factors: marketing & sales, R&D, operations, personnel, finance
Strategic groups, strategic types, McKinsey 7 S Framework

Unit 8: Strategy Implementation: Organizing for Action- Who, What and How? 3 hrs

Who implements strategy, what must be done, Developing programs, budget and procedures, Structure follows strategy

Unit 9: Strategy Implementation : Staffing and Directing

3 hrs

Staffing, Staffing follows Strategy, Management by Objectives, Total Quality Management

Unit 10: Evaluation and Control

3 hrs

Evaluation and control in strategic management, Measuring performance, Types of control

Unit 11: Case Study and student presentation

6 hrs

References:

1. Thomas L. Wheelen, J. David Hunger, Krish Rangarajan, 2006, *Strategic Management and Business Policy*, Pearson Education, India
2. Lawrence R. Jauch, Rajiv Gupta, William F. Glueck, *Business Policy and Strategic Management*, 2003, Frank Bros. & Co, India
3. Any Book on Strategic Management

Business Planning & Management

MI 124

Semester: Second

Final: 45

Credit Hour: 3

Internal: 30

Full Marks: 75

General Objectives;

* to provide students with overall understanding of the general management principles and practices

Specific Objectives;

Specific objectives of this course are;

* to help students to plan, organize, control and manage the new/existing venture.

* to extend the technical capabilities of students into managerial

* to help students to manage the design, development, production and marketing of various products and services

COURSE CONTENT

1. Introduction to Management 4

- 1.1 Introduction to Management
- 1.2 Forces that shaped management theory
- 1.3 Emergence of Management Thought
- 1.4 The Emergence of Modern Management Concepts and Practices in Developing Economies.
- 1.5 Manager: - Function, Roles and Skills
- 1.6 Levels of Management

2. Organization and Organizational Development 4

- 2.1 Organization:- An Introduction
- 2.2 Purpose of Organization
- 2.3 Organization as System
- 2.4 Organization and its Environment
- 2.5 Organizational Structure
- 2.6 Centralization and Decentralization
- 2.7 Good, Bad and Effective Organization

3. Planning and Decision Making	4
3.1	Planning: - An Introduction					
3.2	Types of Planning					
3.3	Planning as basic function					
3.4	Effective Plan and its Characteristics					
3.5	The Planning Process					
3.6	Advantages and Limitations of Planning					
3.7	Decision Making: - An Introduction					
3.8	Rational Model of Decision Making					
3.9	Types of Decisions					
3.10	Behavioral Theory of Decision Making					
4. Managing People and Human Resource	6
4.1	Organization Behavior					
4.2	Importance of Managing People					
4.3	Managers and Effective Human Relations					
4.4	Managers and Organizational Culture					
4.5	Changing Nature of the way people are managed					
4.6	Change in People					
4.7	Human Resource Management (HRM) its Role					
4.8	Human Resource Planning (HRP)					
4.9	Human Resource Functions					
4.10	HRM Skills					
4.11	Training and Staff Development					
4.12	Performance Management					
4.13	Factors Affecting Work Performance					
4.14	New Trends and Challenges in HRM					
5. Leadership and Effective Management	4
5.1	Leaders: - An Introduction					
5.2	Leadership and Management					
5.3	Power and Leadership					
5.4	Influence					
5.5	Authority					
5.6	Leadership Styles and Types					
5.7	Leadership Theories					
5.8	Managers as Leaders					
6. Introduction to Marketing Management	4
6.1	Marketing and Marketing Management– An Introduction					
6.2	Needs, Wants and Demands					
6.3	Evolution of Marketing Concept					
6.4	Marketing Environment					
6.5	The Marketing Triad					
6.6	Four P's of Marketing (Marketing Mix)					

- 6.7 Integrated Marketing System
- 6.8 Market Segmentation, Targeting and Positioning (STP)
- 6.9 Product Life Cycle
- 6.10 Product/ Service Adoption
- 6.11 The Range of Marketing Relationships
- 6.12 New Marketing Challenges
- 6.13 Societal Marketing Concept

7. Management Practices and Problems in Developing Countries (DCs) 4

- 7.1 Managers and Management in developing countries
- 7.2 Organizations in developing countries
- 7.3 Power, Politics and Management
- 7.4 Comparison with Industrial Countries
- 7.5 Emerging into 21st Century
- 7.6 Social and Economic Policies of DC governments and their effect in Management
- 7.7 Emergence of modern management practices in DCs
- 7.8 Management and Organizational problems in DCs
- 7.9 Dealing with Management and Organizational Problems in DCs

8. Creativity and Business Idea 5

- 8.1 Creativity and Innovation
- 8.2 Can we learn to be creative?
- 8.3 Elements of creativity (unique, valued, intent, continuance)
- 8.4 Increasing personal creativity – Balanced Thinking
- 8.5 Barriers to creativity.
- 8.6 Tips for enhancing organizational creativity
- 8.7 Tips for enhancing individual creativity
- 8.8 The creative process
- 8.9 Techniques for improving the creative process
- 8.10 Twelve stages in the creative problem solving process.

9. Opportunity Recognition and Business Concept 4

- 9.1 SWOT Analysis
- 9.2 An Opportunity is external
- 9.3 Opportunity, Ideas and Concepts
- 9.4 Opportunity Recognition
- 9.5 The Window of Opportunity
- 9.6 Opportunity and Environmental Factors
- 9.7 Differentiating between Opportunities
- 9.8 Principles of innovative opportunity seeking

10. Business Planning 6

- 10.1 Factors of a Successful Business
- 10.2 Basic Motivational Factors: Four C's
- 10.3 The Business Planning Process
- 10.4 The Concept (Business Concept)
 - Identifying opportunities (existing vs new market and product – fig)
 - Key Business Concepts (Business model, Revenue model and Value Proposition)
 - Developing the concept statement.
 - Purpose of a mission statement as a part of business concept
 - Setting the firm's vision
 - Characteristics of a mission
 - The concept checklist
- 10.5 Business Plan – What is it? Why is it necessary?
- 10.6 Things to remember while writing a Business Plan
- 10.7 Business Plan Components
 - The Executive Summary
 - Company Description
 - Industry Analysis and Trends
 - Target market
 - Industry analysis and Competition
 - Strategic Position and Risk Assessment
 - Marketing Plan and Sales Strategy
 - Operations
 - Technology Plan
 - Management and Organization
 - Community Involvement and Social Responsibility
 - Development, Milestones and Exit Plan
 - The Financials
 - Appendix
- 10.8 Putting the Plan to Work

Basic Textbooks:

- Effective Management in the South- Ken Afful, Ekta Books
- The Successful Business Plan (Secrets and Strategies) – Rhonda Abrams, 4th Edition, Prentice-Hall, India

Operation Research

ME 12 5

Semester: Second

Credit Hour: 3

General Objectives;

- * Impart knowledge on the concept and methodologies of Operations research.
- * Visualize and practice mathematical modeling; formulation and problem solving techniques.

Specific Objectives;

Specific objectives of this unit are;

- * to make the student know about the importance and applicability of data management,
- * to familiarize the students about the forecasting,
- * to explain different methods of problem solving techniques for optimal results,
- * to make the students understand risk in making decisions,
- * to give the idea of simulation,
- * to involve students in practicing the formulation of mathematical models and problem solving techniques such as forecasting, queuing, inventory, and optimization problems.

Course Contents:

- Unit 1: Introduction to Modeling for Decisions** **3 hrs**
Application and benefits of Operations Research, Developing Models, Analyzing and Solving Models, Interpretation and Use of Model Results
- Unit 2: Data Management and Analysis** **6 hrs**
Applications of Data Management and Analysis, Data Storage and Retrieval, Data Visualization
Data Analysis, Regression Analysis
- Unit 3: Forecasting** **6 hrs**
Models for Time-series with Trend Components, Models for Time-series with Seasonal Components, Models for Time-series with Trend and Seasonal Components, Selecting the Best Forecasting Method, Forecasting with CB Predictor.
- Unit 4: Introduction to Optimization** **9 hrs**
Linear and Multi-objective Optimization Models, Modeling Optimization Problems in EXCEL
Building Linear Programming Models, Solving Linear Programming Models, Interpreting Solver Results and Sensitivity Analysis, Solving Multi-objective Models, Using Premium Solver for Linear Programming.
- Unit 5: Decision and Risk Analysis** **6 hrs**
Application of Decision and Risk Analysis, Structuring Decision Problems, Understanding Risk in Making Decisions, Expected Value decision-making, Optimal Expected Value Decision Strategies