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संगणक विज्ञान एंव अभियांत्रिकी विभाग / DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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No:- Date:

CSXX2846: Decision Support Systems

L-T-P-Cr: 3-0-0-3

Pre-requisites: Database Management Systems, Enterprise Data Management, and Minimal Concepts of AI.

Objectives/Overview:

The students who succeeded in this course will be able;

- To know the concept of decision support systems (DSS).
- To understand the methods of decision-making.
- To develop and implement DSS.
- To know the multiple levels of knowledge representation.
- To know the manipulation of models as a decision-making procedure.

Course Outcome:

After completing the course, students will able to:

No.	Course Outcomes	Mapping to POs
1	Understand the fundamentals of data processing systems, management information systems, and decision support systems.	PO1
2	Understand the methods of decision-making and problem-solving.	PO1, PO2
3	Understand the process of analyzing, designing, and developing a decision support system, Understand the DSS features and capabilities, and know the DSS in the information center.	PO1, PO2, PO3, PO5
4	Understand knowledge acquisition and meta-knowledge.	PO3-PO5

5	Understand the effects of data manipulation to support decisions in pricing, production, and new product evaluation models.	PO4, PO5
6	Understand the proficiency in utilizing expert systems.	PO1, PO5, PO10

UNIT 1: Review of Systems Principles

- Characteristics and elements of systems thought
- The general systems model
- Explore communication systems
- Differentiate between data processing systems, management information systems,

and decision support systems

UNIT 2: Methods of Decision Making and Problem Solving

- Elements of the problem-solving process
- Problems versus systems
- Structured, unstructured, and semi-structured problems
- The systems approach and its relationship to the scientific approach

UNIT 3: Decision Support Systems (DSS)

- Development of DSS
- Relationship to data processing and database systems
- DSS development and implementation
- DSS features and capabilities
- DSS in the information center

UNIT 4: Knowledge Acquisition and Meta-Knowledge

- Editing (supplementing, correcting, deleting) knowledge
- Multiple levels of knowledge representation
- Multiple levels of control and search procedures

UNIT 5: Manipulation of Models as a decision-making procedure

- Effects of data manipulation to support decisions in pricing, production, cash flow,

and new product evaluation models

- Proficiency in utilizing the expert system, spreadsheet, database, graphic and

statistical software for "what if" analyses

Text/ReferenceBooks:

1. Bennett, John L. Building Decision Support Systems. Reading, MA: Addison Wesley, 1983.

2. Leigh, William E. & Michael E. Doherty. Decision Support and Expert Systems. Cincinnati: South-Western Publishing, 1986.

3. Sprague, Ralph H., Jr., & Hugh J. Watson, eds. Decision Support Systems. Englewood Cliffs, NJ: Prentice-Hall, 1986.

4. Turban, Efraim. Decision Support and Expert System: Managerial Perspectives. New York: Macmillan, 1988.