UkaTarsadiaUniversity

M.Sc (CA)

Information Systems (040020112)

IstSemester

EFFECTIVE FROM JUNE-2014

Course Code: 040020112 Course Title: Information Systems
Course Credits: 4 Total Hours: 48 [Lectures: 04, Tutorial: 00, Practical: 00]
Prerequisites: Basics of Information Systems and Organization
Prerequisites By Topics: Components and types of IS.

Objectives: To provide the knowledge of information systems concept, decision making, decision support systems and its type, so as to understand their relationships to other computer based information systems, as well as importance of knowledge management and intelligent systems for assisting daily business activities using current Information Systems and Business Intelligence tools over internet.

1 Organizations, Information Systems and Decision Making [07 Hours]
1.1. Information Systems Concept
1.2. IS and Business
1.3. Perspectives and Dimensions of IS
1.4. Business Use of IS, Business Processes and IS
1.5. Types of Business IS, Enterprise Applications, E-Business, E-Commerce and E-Government

2 Decision Support Systems, Modelling and Analysis [10 Hours]
2.1. Decision and Decision Making: Concepts, Phases of Decision Making Process
2.2. Decision Support Systems Concepts, Characteristics, Capabilities, Classifications and Components
2.3. Structure of Mathematical Models for Decision Support, Certainty, Uncertainty and Risk
2.4. Mathematical Programming Optimization
2.5. Multiple Goals, Sensitivity Analysis, What-If Analysis and Goal Seeking
2.6. Simulations And Visual Interactive Simulations

3 Spatial Decision Support System [07 Hours]
3.1. Introduction to Spatial Decision Making, and Types of Spatial Decisions
3.2. Spatial Decision-Making Process
3.3. Spatial DSS: Definition, Characteristics, Components, Types and SDSS Applications
3.4. Overview of Geographical Information Systems (GIS) and GIS Components
3.5. Coordinate Systems, Data Models

4 Group Support Systems and Executive Support Systems [07 Hours]
4.1. Making Decisions in Groups: Characteristics, Process, Benefits and Computer Support
4.2. Integrated Groupware Suites and Emerging Collaboration Tools
4.3. GDSS and GSS
4.4. Products and Tools for GDSS/GSS
4.5. Executive Support Systems

5 Decision Support Systems and Business Intelligence [10 Hours]
5.1. A Framework for Business Intelligence: Concepts and Benefits
5.2. Business Analytics, Online Analytical Processing, Reporting and Querying
5.3. Data, Text, Web Mining and Predictive Analytics
5.4. Data Visualization, Virtual Reality, Real-Time Business Intelligence and Competitive Intelligence
5.5. Business Performance Management, Scorecards and Dashboards

6 Knowledge Management, Artificial Intelligence and Expert Systems [07 Hours]
6.1. Introduction to Knowledge Management
6.2. Knowledge Management Activities, Approaches to Knowledge Management
6.3. Concepts and Definition of AI, Intelligent Agents
6.4. Basic Concepts of Expert Systems, Structure and Applications
6.5. Benefits, Limitations of Expert Systems

Course Outcomes:

CO1: To understand conceptual foundation information systems, decision making and the need for computerized support of Business decision making.

CO2: To understand DSS components, compare & contrast models for modelling & simulation of decision alternatives

CO3: To understand the basic concepts & process of group work.

CO4:	To evaluate tools and techniques for effective GDSS communication and collaboration over internet.
CO5:	To understand the concept of Spatial Decision Support Systems, Business Intelligence and its tools along with their usage.
CO6:	To recognize the organizational learning, the need for knowledge management , AI and Business Intelligence for decision support.
CO7:	To understand the concepts behind intelligent software agents and Experts systems, their use, capabilities & limitations in developing advanced intelligent systems

Course Objectives and Course Outcomes Mapping:

To provide the knowledge of information systems concept, decision making, decision support systems and its type, so

as to understand their relationships to other computer based information systems : CO1,CO2,CO3,CO4,CO5

as well as importance of knowledge management and intelligent systems for assisting daily business activities using

current Information Systems and Business Intelligence tools over internet :CO6,CO7

Course Units and Course Outcomes Mapping:

Unit No.	Unit	Course outcome						
		CO1	CO2	CO3	CO4	CO5	CO6	CO7
1	Organizations, Information Systems and Decision Making	✓					✓	
2	Decision Support Systems, Modeling and Analysis	✓	✓		✓			
3	Spatial Decision Support System	✓				✓		
4	Group Support System and Executive Support System	✓		✓	✓			
5	Decision Support System and Business Intelligence	✓					✓	✓
6	Knowledge Management, Artificial Intelligence and Expert Systems	✓					✓	✓

Hands-on Experience Activity:

❖ Students shall be practicing DSS simulations and Business Intelligence and Analytics using Open Source tools on their personal laptops

❖

Modes of Transaction (Delivery):

❖ Lecture Method: is generally used but along with it, as and when required, discussion method would be fruitful. It shall be supplemented with variousappropriateaudio-visual aids.
❖ Assignment Activity: Atleast five questions from each unit will be given.
❖ Case Study: Shall be used to teach in depth unit 1,2,3 and 4

Activities/Practicum:

The following activities shall be carried out by the students.
❖ Case study based on different types of Information Systems

❖ Presentation on the recent trends in the subject.

❖ Comprehensive exercises shall be solved by the students for unit 1, 2, 3 and 4

The following activities shall be carried out by the teacher.

❖ Show animated videos on the phases and process of decision making in groups
❖ Demonstrate case study related to Information Systems

Text Book:

1. Efraim Turban, Ramesh Sharda, Durshan Delen, Decision Support Systems and Business Intelligence Systems, Pearson Education
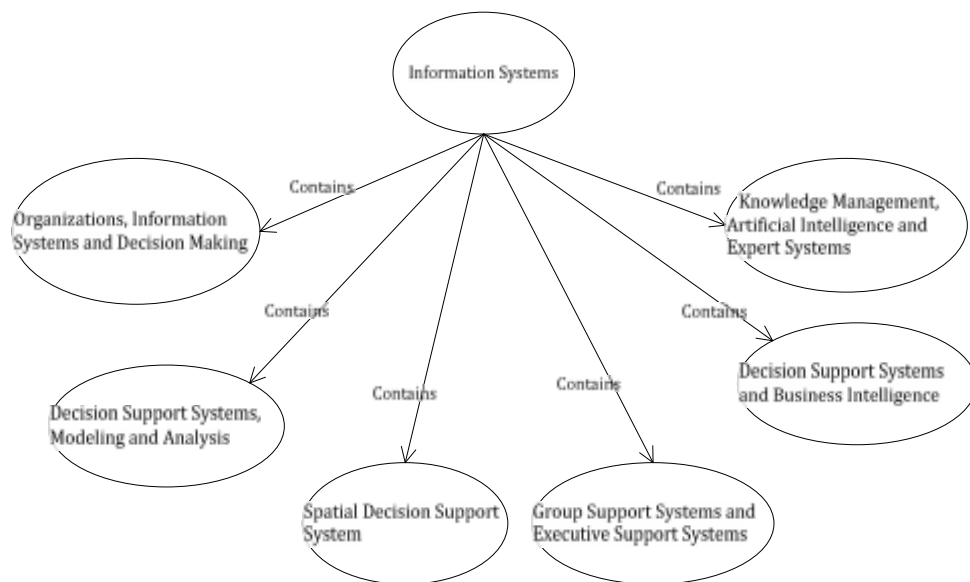
Reference Books:

1. Laudon, K., Laudon, J. Management Information System: Managing the Digital Firm, Prentice Hall of India.
2. Ramanathan Sugumaran, John DeGroote., Spatial Decision Support Systems., CRC Press-Taylor & Francis
3. Efraim Turban, Dorothy Leidner, Ephraim Mclean, James Wetherbe, Information Technology for Management: Transforming Organizations in the Digital Economy, Wiley India Edition.
4. C. W. Holsapple, Handbook on Decision Support Systems 1-Basic Themes, Springer
5. Efrem Mallach, Decision Support and Data Warehouse Systems, Tata McGraw Hill
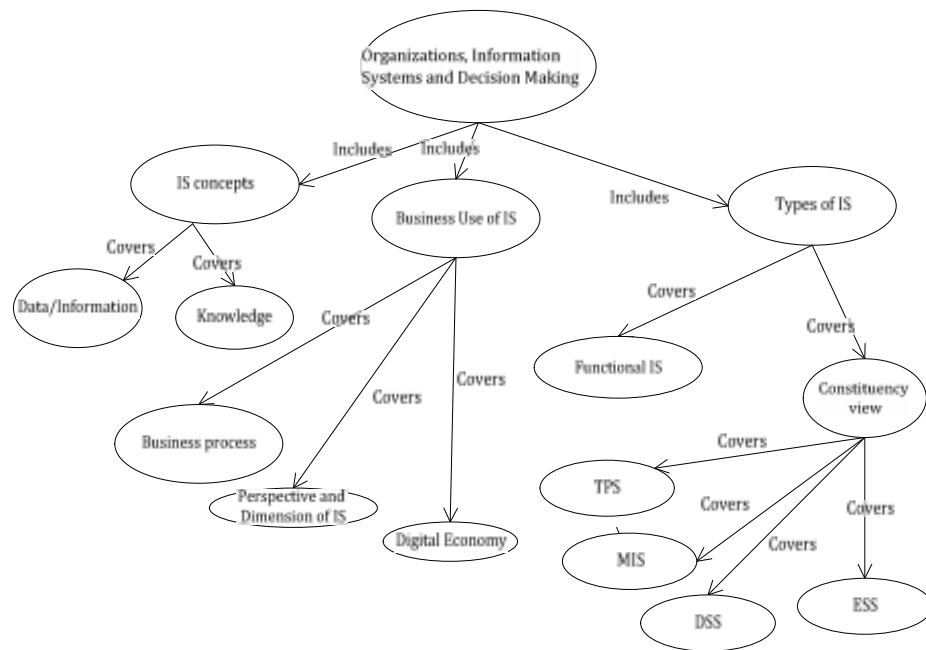6. James O'Brien, Management information Systems, Tata McGraw Hill

Concept Map:

It is a hierarchical / tree based representation of all topics covered under the course. This gives direct / indirect relationship /association among topics as well as subtopics.
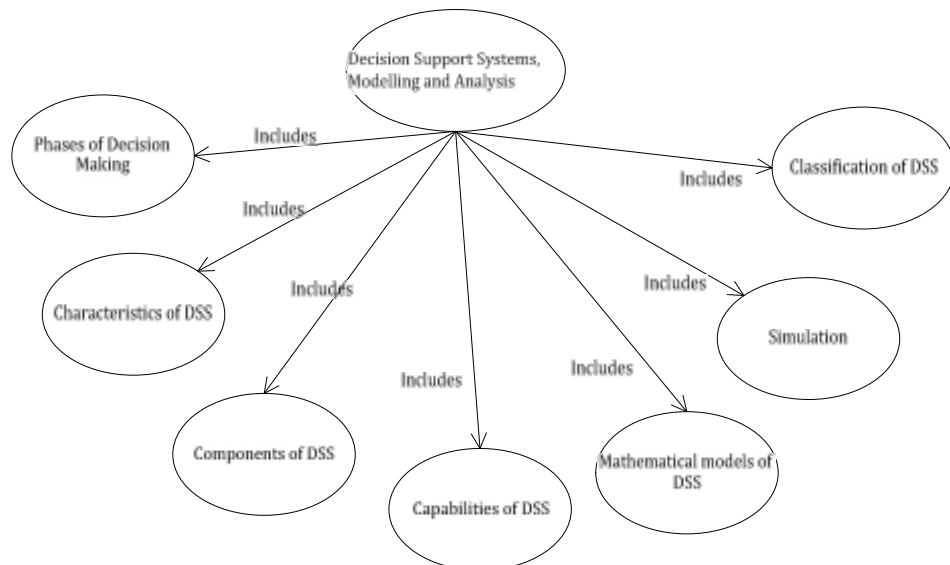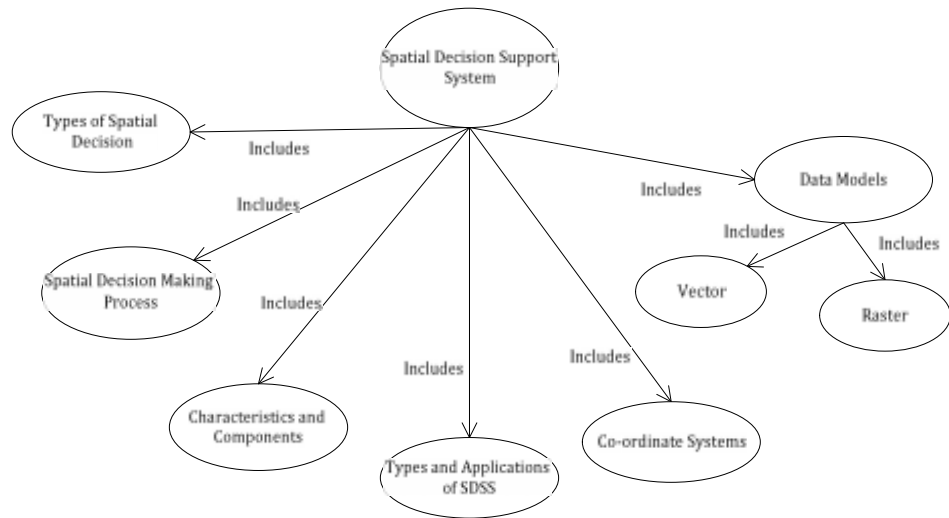
Information Systems

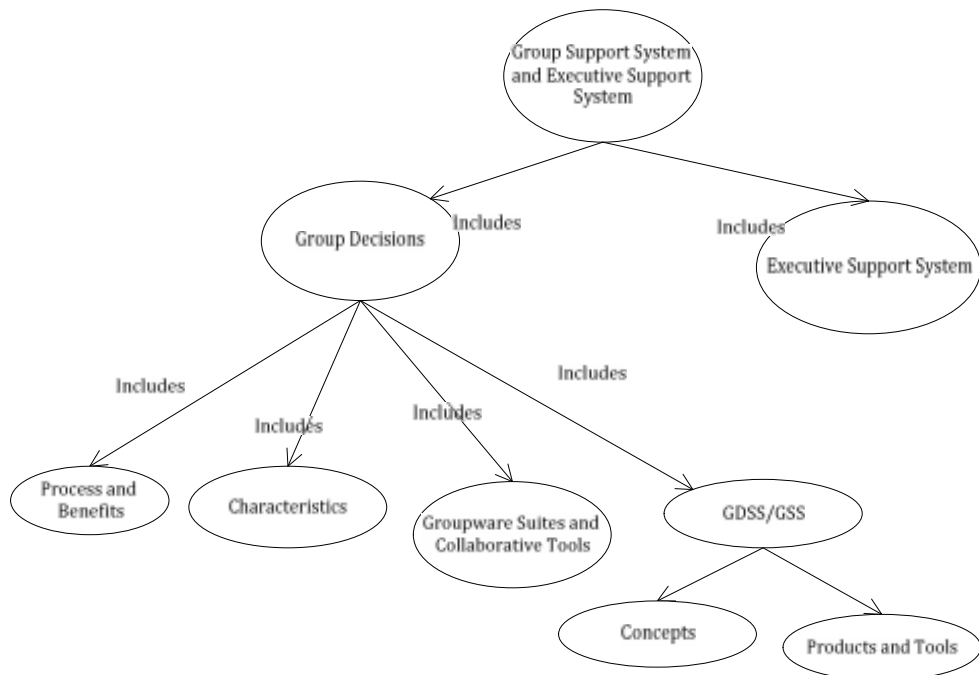Unit-1: Organizations, Information Systems and Decision Making
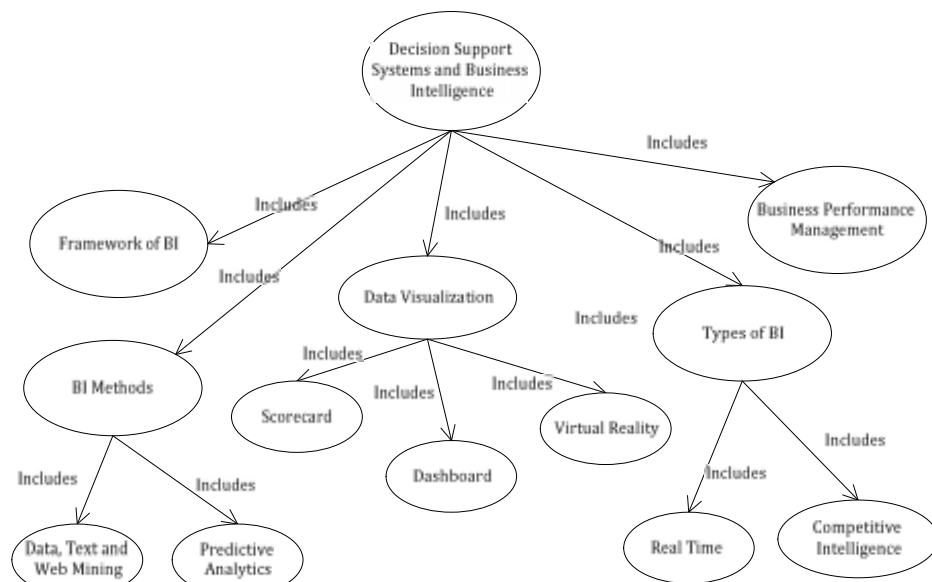
Unit-2: Decision Support Systems, Modelling and Analysis
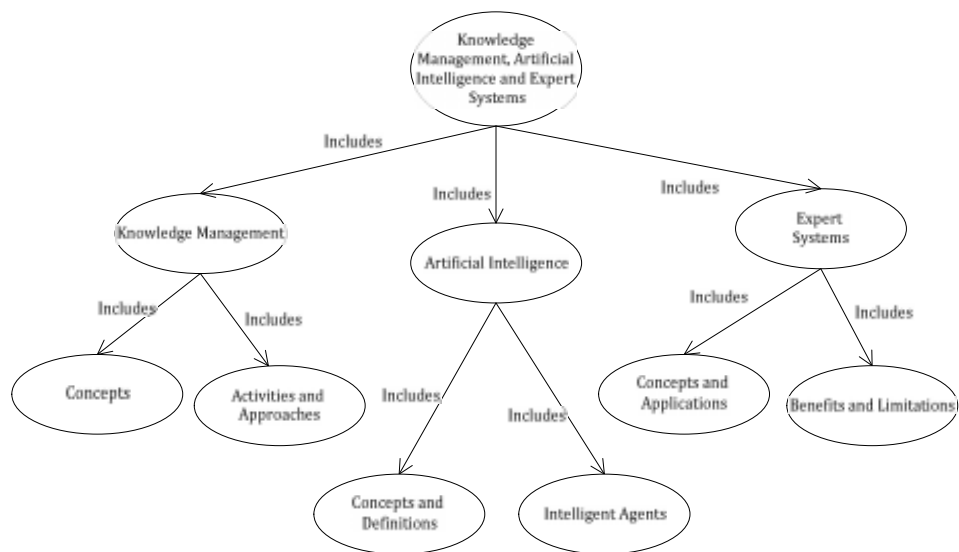

Unit-3: Spatial Decision Support System

Unit-4: Group Support System and Executive Support System

Unit-5: Decision Support System and Business Intelligence

Unit-6: Knowledge Management, Artificial Intelligence and Expert Systems

Assessment:

The weightage of CIE and University examination shall be as per the University regulations.
Composition of CIE shall be

Assessment Code	Assessment Type	Duration of each	Occurrence	Each of marks	Weightage in CIE of 40 marks	Remarks
A1	Quiz	45 mins	2	20	8	Quiz 1 - Taken at the end of unit 1 and unit 2 Quiz 2 – Taken at the end of unit 4

A2	Unit Test	90 mins	2	30	12	Unit Test 1 – Taken at the end of unit 3 Unit Test 2 – Taken at the end of unit 5 and unit 6
A3	Assignment	1 week	5	10	5	It shall be submitted at the end of each unit
A4	Internal	3 hours	1	60	15	From All Units

- ❖ Syllabus for each CIE parameter shall be covered by the date of the corresponding test.
- ❖ No make-up work shall be accepted for missed or failed tests.
- ❖ Student shall receive up to 10% marks towards the extra points by following any of the below points.
  (i) If they have done case analysis on any of the Information Systems.
- ❖ Late submission of assignment shall be penalized as 5% of full marks per day for maximum two days after the cut-off date. No submission shall be accepted thereafter with the corresponding mark set to 0.

Course Assessment with Course Outcomes Mapping

Assessment	Course Outcomes							
	CO1	CO2	CO3	CO4	CO5	CO6	CO7	CO8
A1	✓			✓				
A2		✓	✓			✓	✓	✓
A3			✓	✓	✓	✓	✓	✓
A4	✓	✓	✓	✓	✓	✓	✓	✓

Question Bank:

Question Bank shall consists of Multiple Choice Questions, Fill in the blanks, Short type questions, long type questions and comprehensive exercises. Comprehensive exercises shall be applicable for all units.

Academic Honesty:

Coursework is assumed to be accomplished individually (otherwise stated). Any portion of submission taken directly from anywhere (like statements in assignment/report etc.) without modification shall be accompanied with the properly formatted reference giving credit to the author and to the source.

UFM:

- ❖ If two or more submitted papers are too similar for coincidence, a penalty shall be imposed that shall usually be the same for the student who did the original as for the one copying from it.
- ❖ Any ascertained fact of breaking institute policy shall be associated with one or all of the following: (i) zero marks for the work; (ii) report to the Course coordinator; (iii) report to the Director.>>

Discussion Group:

Students are welcome to post on the Course Discussion Board available on SRIMCA View Course Webpage. It is responsibility of the concern subject teacher to maintain Discussion Board.

Attendance:

- ❖ Attendance means being present for the entire class session. Those arriving significant late or leaving significantly early without prior permission shall be counted as ABSENT for the entire class session.
- ❖ Concern teacher must clearly state his/her attendance policies at the first class meeting.

NOTE: Syllabus shall be submitted along with TABLE BORDERS