INFORMATION SYSTEMS [CT 751] - SYLLABUS IV/II

Lecture : 3 Year : IV

Tutorial : 0 Part : II

Practical : 1.5

Course Objectives:

To introduce and apply the knowledge of computer based information systems. It also provides the concept to the student in designing and setting up complex information system.

1. Information system (3 hours)

1.1. Classification and evolution of IS

1.2. IS in functional area.

1.3. Information system architecture

1.4. Qualities of information systems

1.5. Managing Information System resources

1.6. Balanced Scorecard – case studies

2. Control, Audit and Security of Information system (5 hours)

2.1. Control of information system

2.2. Audit of information system

2.3. Security of information system

2.4. Consumer layered security strategy

2.5. Enterprise layered security strategy

2.6. Extended validation and SSL certificates

2.7. Remote access authentication

2.8. Content control and policy based encryption

2.9. Example of security in e-commerce transaction

3. Enterprise Management Systems (4 hours)

3.1. Enterprise management systems (EMS)

3.2. Enterprise Software: ERP/SCM/CRM

3.3. Information Management and Technology of Enterprise Software

3.4. Role of IS and IT in Enterprise Management

3.5. Enterprise engineering, Electronic organism, Loose integration vs. full integration, Process alignment, Frame work to manage integrated change, future trends.

4. Decision support and Intelligent systems (7 hours)

4.1. DSS, operations research models

4.2. Group decision support systems

4.3. Enterprise and executive decision support systems

4.4. Knowledge Management, Knowledge based Expert system

4.5. AI, Neural Networks, Virtual reality, Intelligent Agents

4.6. Data mining, Data ware Housing, OLAP, OLTP

4.7. Anomaly and fraud detection

5. Planning for IS (3 hours)

5.1. Strategic information system

5.2. Tactical information system

5.3. Operational information systems

6. Implementations of Information Systems (7 hours)

6.1. Change Management

6.2. Critical Success Factors

6.3. Next generation Balanced scorecard

7. Web based information system and navigation (8 hours)

7.1. The structure of the web

7.2. Link Analysis

7.3. Searching the web

7.4. Navigating the web

7.5. Web uses mining

7.6. Collaborative filtering

7.7. Recommender systems

7.8. Collective intelligence

8. Scalable and Emerging Information System techniques (8 hours)

8.1. Techniques for voluminous data

8.2. Cloud computing technologies and their types

8.3. MapReduce and Hadoop systems

8.4. Data management in the cloud

8.5. Information retrieval in the cloud

8.6. Link analysis in cloud setup

8.7. Case studies of voluminous data environment

Practicals:

The practical exercise shall include following three types of projects on designing of information system

1. E-commerce based information system for online transaction processing

2. web uses mining or collaborative filtering based processing system

3. scalable and emerging information system

4. Balanced scorecard, Strategy Map

References:

1. Information Systems Today Leonard Jessup and Joseph Valacich, Prentice hall, 2007

2. Managing With Information System, J.Kanter, PHI, Latest edition

3. An Introduction to Search Engines and Web Navigation, M. Levene, Pearson Education,

4. Data-Intensive Text Processing with MapReduce, Jimmy Lin and Chris Dyer, Morgan and Claypool, 2010.

5. The Cloud at Your Service, Jothy Rosenberg and Arthur Mateos, Manning, 2010

6. Balanced scorecard: Robert S. Kaplan,David P. Norton

7. Strategy Maps : Converting   intangible assets into tangible outcomes,Robert S. Kaplan,David P. Norton

8. Strategy Focused organization : Robert S. Kaplan,David P. Norton

Evaluation Scheme:

The question will cover all the chapters of the syllabus. The evaluation scheme will be as indicated in the table below:

Chapters	Hours	Marks Distribution*
1	4	8
2	8	14
3	4	8
4	7	12
5	3	5
6	3	5
7	8	14
8	8	14
Total	45	80

*There may be minor variation in marks distribution.