



STANLEY

COLLEGE OF ENGINEERING & TECHNOLOGY FOR WOMEN
(Approved by AICTE , New Delhi | Affiliated to Osmania University ,Hyderabad)
Address : Chapel Road, Abids ,Hyderabad

CS 570

SEMANTIC WEB

UNIT I

The Future of the Internet: Introduction, The Syntactic Web, The Semantic Web, The working Semantic Web.

Ontology in Computer Science: Defining the Term Ontology, Differences among Taxonomies, Thesauri, and Ontologies, Classifying Ontologies, Web Ontologies, Web Ontology Description Languages, Ontology, Categories, and Intelligence.

UNIT II

Knowledge Representation in Description Logic: Introduction, an Informal Example, the Family of Attributive Languages, Inference Problems.

RDF and RDF Schema: Introduction, XML Essentials, RDF, RDF Schema, A Summary of the RDF/RDF Schema Vocabulary.

UNIT III

OWL: Introduction, Requirements for Web Ontology Description Languages, Header Information, Versioning, and Annotation Properties, Properties, Classes, Individuals, Data types, A Summary of the OWL Vocabulary.

Rule Languages: Introduction, Usage Scenarios for Rule Languages, Datalog, RuleML, SWRL, TRIPLE.

Semantic Web Services: Introduction, Web Service Essentials, OWL-S Service Ontology, An OWL-S Example.

UNIT IV

Methods for Ontology Development: Introduction, Uschold and King Ontology Development Method, Toronto Virtual Enterprise Method, Methontology, KACTUS Project Ontology Development Method, Lexicon- Based Ontology Development Method, Simplified Methods.

Ontology Sources: Introduction, Metadata, Upper Ontologies, Other Ontologies of Interest, Ontology Libraries.

Semantic Web Software Tools: Introduction, Metadata and Ontology Editors, Reasoners, Other tools.

UNIT V

Software Agents: Introduction, Agent Forms, Agent Architecture, Agents in the Semantic web Context. **Semantic Desktop:** Introduction, Semantic Desktop Metadata, Semantic Desktop Ontologies, Semantic Desktop Architecture, Semantic Desktop Related Applications.

Ontology Application in Art: Introduction, Ontologies for the Description of Works of Art, Metadata Schemas for The Description of Works of Art, Semantic Annotation of Art Images.

SUGGESTED READING:

1. Semantic Web Concepts: Technologies and Applications, Karin K. Breitman, Marco Antonio Casanova and Walter Truszcowski, Springer.
2. Information Sharing on the Semanting Web, Heiner Stuckenschmidt, Frank van Harmelen, Springer.
3. Semantic Web Primer, Grigoris Antoniou, Frank Van, third Edition, MIT Press.
4. Semantic Web Services: Concepts, Technologies and Applications, Rudi Studer, Stephan Grimm, Andrees Abeker, Springer.
5. Towards the Semantic Web: Ontology Driven Knowledge Management, John Davis, Dieter Fensal, Frank Van Harmelen, J. Wiley.

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