Course code: Course Title	Course Structure			Pre-Requisite
SE410: Semantic Web and Web Mining	L	T	P	NIL
	3	1	0	

Course Objective: To introduce concepts of semantic web and various techniques of Web Mining

S. NO	Course Outcomes (CO)
CO1	Understand the evolution of web documents and semantic search techniques to enhance information retrieval.
CO2	Apply XML languages in web-based development to structure, store, and transport data efficiently.
CO3	Create and apply ontologies, RDF, and OWL to effectively describe and annotate web resources.
CO4	Analyze, apply, and evaluate advanced semantic web technologies, their applications, and future directions.

S.No.	Contents	Contact Hours
UNIT 1	**Introduction:** The Semantic Web Roadmap, evolution of Web Documents, Semantic Search Techniques.	10
UNIT 2	**XML Languages:** Detailed study of XML language & application to Web based developments.	10
UNIT 3	**Describing Web Resources**: Resource Description Framework (RDF), Taxonomies, Ontologies, Web Ontology Language (OWL), Design process of ontology, Annotation.	12
UNIT 4	**Advanced Topics:** Semantic Applications & Power, Latest on Semantic Web, Future Directions, W3C Consortium, Case studies in different application.	10
	TOTAL	42

REFERENCES

S.No.	Name of Books/Authors/Publishers	Year of Publication / Reprint
1.	Grigoris Antoniou, Frank Van Harmelen, "A Semantic Web Primer", MIT Press, 2nd Edition.	2008
2.	Dieter Fensel, James A. Hendler, Henry Lieberman, and Wolfgang Wahlster, "Spinning the Semantic Web - Bringing the World Wide Web to Its Full Potential", MIT Press.	2005
3.	Michael C. Daconta, Leo J. Obrst , Kevin T. Smith, "The Semantic Web: A Guide to the Future of XML, Web Services and Knowledge Management", Wiley Publishing.	2007
4.	John F. Sowa, "Principles of Semantic Networks: Explorations in the Representation of Knowledge", Morgan Kaufmann.	1990
5.	Stuart Russell, Peter Norvig, "Artificial Intelligence: A Modern Approach", Prentice Hall.	2022
6.	Han Reichgelt, "Knowledge Representation: An AI Perspective", Ablex Publishing.	1991