

## BCA (6<sup>th</sup> Semester)

### Teaching Schedule

030010609: DSE8 Introduction to Search Engine Optimization

**Objective:** To imbibe the concepts of SEO in context of website development, and apply its techniques to improve search visibility.

**Course Outcomes:** Upon completion of the course, the student shall be able to

C01: Describe about search engine and ranking factors of website.

C02: Apply URL rewriting and outline the importance of keyword research.

C03: Demonstrate search engine optimization techniques to identify duplicate content over web pages.

C04: Develop SEO friendly website which containing HTML or JavaScript.

C05: Illustrate benefits of White Hat SEO techniques namely web feeds, social bookmarking, sitemap and link baits.

C06: Analyze and evaluate the concept of Black Hat SEO techniques namely keyword stuffing, doorway pages, link farm, hidden text and cloaking.

C07: Comprehend foreign language optimization tips and measures for spamming.

Unit	Sub Unit	No. of Lecture(s)	Topics	Reference Chapter/Additional Reading	Teaching Methodology to be used	Evaluation Parameters
Unit 1 : Search Engine Optimization Basics						
1	1.1	1	Search Engine Optimization: Introduction and Importance	EE#1 - Page no. 1-2	Topic slide And Chalk & talk	
	1.2	1	SEO and Site architecture	CD#1 - Page no. 4-5	Chalk & talk	
	1.3	1	On-page and Off-page Optimization	JS#4-Page no. 64-71	Topic slide And Chalk & talk	
	1.4	1	Search Query and its types	EE#1 - Page no. 6-8	Topic slide And Chalk & talk	
	1.5	1	Search Types: Narrow, Broad, Local, Global	EE#1 - Page no. 6-8	Open Textbook study	
	1.6	1	Layout of Search Engine Result Page	EE#2 - Page no. 24-26	Topic slide And Chalk & talk	

Unit 2 :Web Search Process						
2	2.1	1	Evaluating content on a web page	EE#2 - Page no. 32-34	Topic slide And Chalk & talk	Quiz-1
	2.2	2	Working mechanism of Search Engine: Crawling, Indexing, Retrieving and Ranking	EE#2 - Page no. 30-32	Topic slide and video <a href="http://nptel.ac.in/courses/106105084/38">http://nptel.ac.in/courses/106105084/38</a>	
	2.3	2	Search Engine Ranking Factors: Visible On-Page Factors, Invisible On-Page Factors, Time Based Factors and External Factors	CD#2 - Page no. 25-34	Topic slide And Chalk & talk	
	2.4	1	Link Equity, Google PageRank	CD #2 - Page no. 22-24	Topic slide	
	2.5	1	Potential Search Engine Penalties	CD#2 - Page no. 34-36	Chalk & talk	
Unit 3: URL Rewriting						
	3.1	1	Types of URL: Dynamic, Static, Numeric Rewritten and Keyword-Rich	CD #3 - Page no. 46-52	Topic slide And Chalk & talk	Unit Test 1
	3.2	2	URL Rewriting: Introduction, importance and Implementation	CD #3 - Page no. 76-82	Chalk & talk	
	3.3	1	Redirection using 301 and 302	CD#4 - Page no. 109-112	Topic slide	
	3.4	1	Keyword Research: Introduction and Importance	EE#2 - Page no. 135-138	Topic slide And demonstration	

Unit 4:Search Engine-Friendly Content Management						
	4.1	2	Causes and Effect of Duplicate Content	CD#5 - Page no. 134-135	Topic slide And Chalk & talk	Open book
	4.2	2	Methods to exclude Duplicate Content: Robot meta tag and robot.txt	CD#5 - Page no. 135-137	Open Textbook study	
	4.3	2	Search Engine Friendly JavaScript	CD#6 - Page no. 156-171	Classroom discussion	
	4.4	2	Search Engine Friendly HTML	CD#6 - Page no. 171-176		
Unit 5: SEO Techniques						
	5.1	2	White Hat SEO and Black Hat SEO: Introduction and Importance	CD #07 Page no. 183-185,194	Topic slide And Chalk & talk	Unit Test2
	5.2	2	Black Hat SEO Technique: Keyword Stuffing, Doorway Pages, Hidden Text or Links, Link Farms, Cloaking	CD #08 Page no. 214-220	Topic slide and video	
	5.3	2	White Hat SEO Technique: Web Feed, Social Bookmarking, Traditional and Search Engine Sitemaps, Link Bait	CD #07 Page no. 183-185,194	Topic slide And Chalk & talk	
Unit 6:Foreign Language SEO						
6	6.1	1	About Geo-Targeting and Foreign Language SEO	CD #11 Page no. 265-266	Classroom discussion	
	6.2	2	Foreign Language	CD #12 - Page no.	Topic slide And Chalk &	

			Optimization Tips	299-305	talk	Internal
	6.3	1	Foreign Language Spamming	CD #12 - Page no. 305	Topic slide And Chalk & talk	

References :

**Text Book:**

1. Cristian Darie, Jaimie Sirovich, Professional Search Engine Optimization with ASP.NET A Developer's Guide to SEO, Wrox-Wiley[CD].
2. Eric Enge, Stephan Spencer, Rand Fishkin, Jessie Stricchiola, The Art of SEO: Mastering[EE]

**Reference Books:**

1. Kristopher Jones, Jim Boykin, Search Engine Optimization, Wiley 3. Jerri L. Ledford – SEO [KS]
2. Jaimie Sirovich, Cristian Darie. Professional Search Engine Optimization With PHP, Wrox-Wiley.[JP]
3. Jennifer Grappone, Gradiva Couzin, Search Engine Optimization An Hour a Day, Sybex.[JG]
4. John I. Jerkovic, SEO Warrior, SPD[JS]

**Course objectives and Course outcomes mapping:**

To imbibe the concepts of SEO in context of website development – C01, C04  
Apply SEO techniques to improve search visibility – C02, C03, C05, C06, and C07

**Course units and Course outcome mapping:**

Unit No.	Unit	Course Outcome						
		C01	C02	C03	C04	C05	C06	C07
1	Search Engine Optimization Basics	✓						✓
2	Web Search Process	✓						✓
3	URL Rewriting		✓					✓
4	Search Engine-Friendly Content Management		✓	✓				✓
5	SEO Techniques				✓	✓		✓
6	Foreign Language SEO						✓	✓

**Programme Outcomes:**

- PO1: Ability to understand the concepts of key areas in computer science.  
PO2: Ability to design and develop system, component or process as well as test and maintain it so as to provide promising solutions to industry and society.  
PO3: Effective communication and presentation skill.  
PO4: Ability to understand professional and ethical responsibility.  
PO5: Recognition of the need for life-long learning.

### Programme Outcomes and Course Outcomes mapping:

Programme Outcome	Course Outcomes						
	C01	C02	C03	C04	C05	C06	C07
P01	✓		✓				
P02	✓			✓			✓
P03							
P04					✓	✓	
P05							

### Modes of Transaction (Delivery):

Unit No	Topic Detail	Teaching Approach	PO mapped
2	1.5 Search Types: Narrow, Broad, Local, Global	Open textbook study (Students shall be given questions and they have to find the answers from the book)	P04, P05
5	5.1 White Hat SEO and Black Hat SEO: Introduction and Importance	Analyze website (Group of five students shall analyze the website assigned by course teacher)	P02, P05

### Activities/Practicum:

The following activities shall be carried out by the students:

- How to become SEO Practitioner?
- Analyze website and prepare documentation suggesting SEO improvements.

The following activities shall be carried out by the teacher:

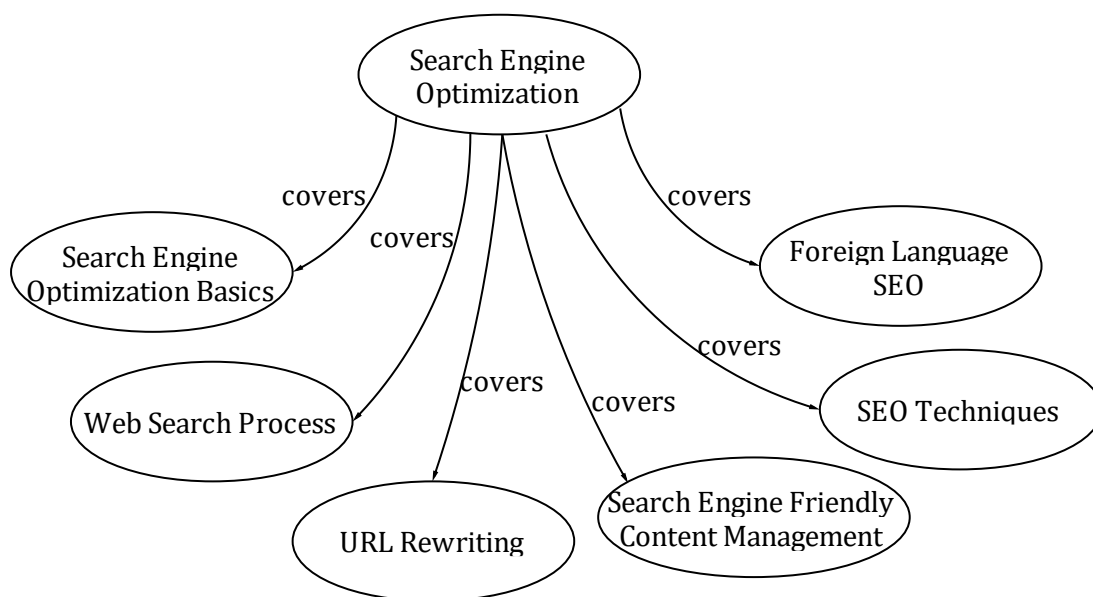
- Demonstration of SEO Tools namely Keyword Discovery tool and Adwords tool.

Learner	Activities to be done	PO mapped
For slow learners	After completion of every unit, a bowl containing chits with question(s) for all the topics from	P01

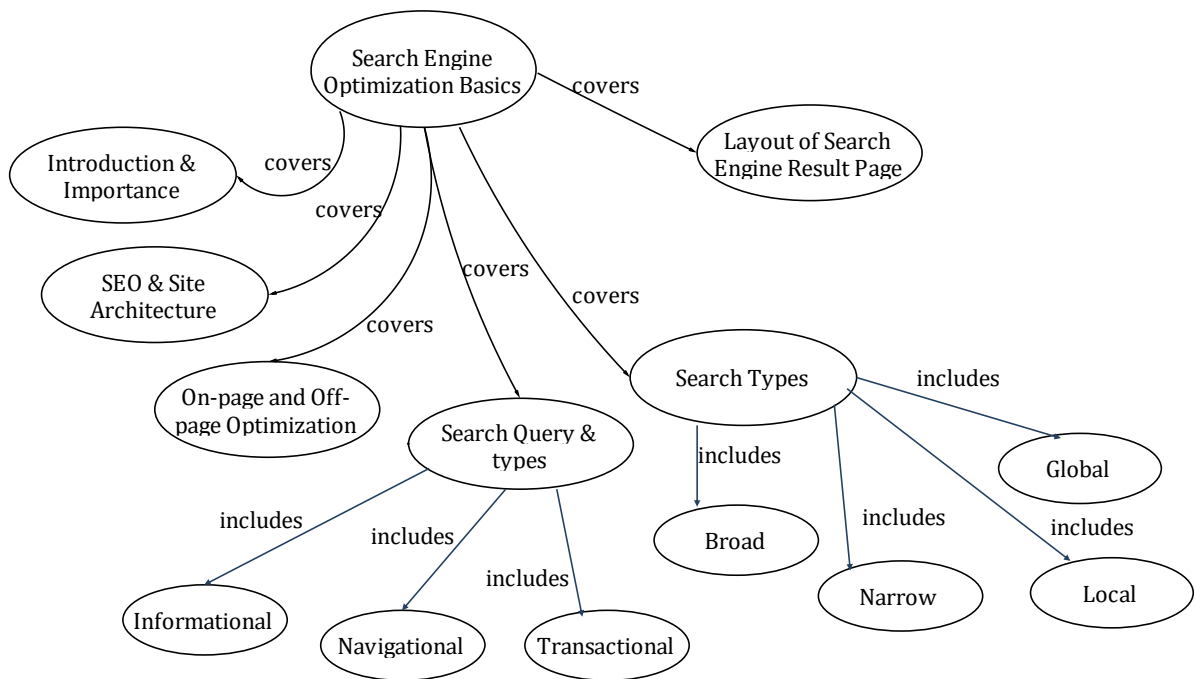
	that unit is given by teacher.  The student selected by teacher shall pick a chit of his choice from bowl and discuss answer for the question(s) available in chit in classroom.	
<b>For advanced learners</b>	Prepare a list of popular tools currently used for SEO. Students shall demonstrate that after completion of topic.	PO3,PO2
<b>For all</b>	Implementation of Sitemap using Sitemap Generator	PO2

**Concept map:**

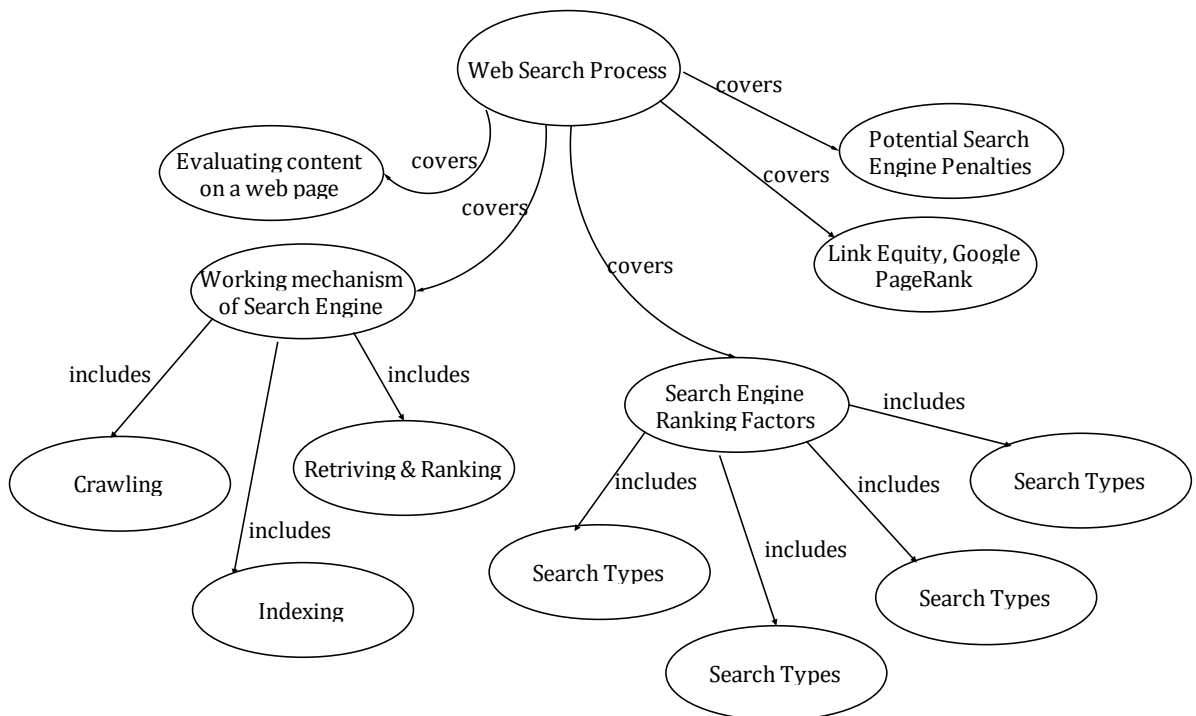
It is a hierarchical / tree based representation of all topics covered under the course. This gives direct / indirect relationship /association among topics as well as subtopics.



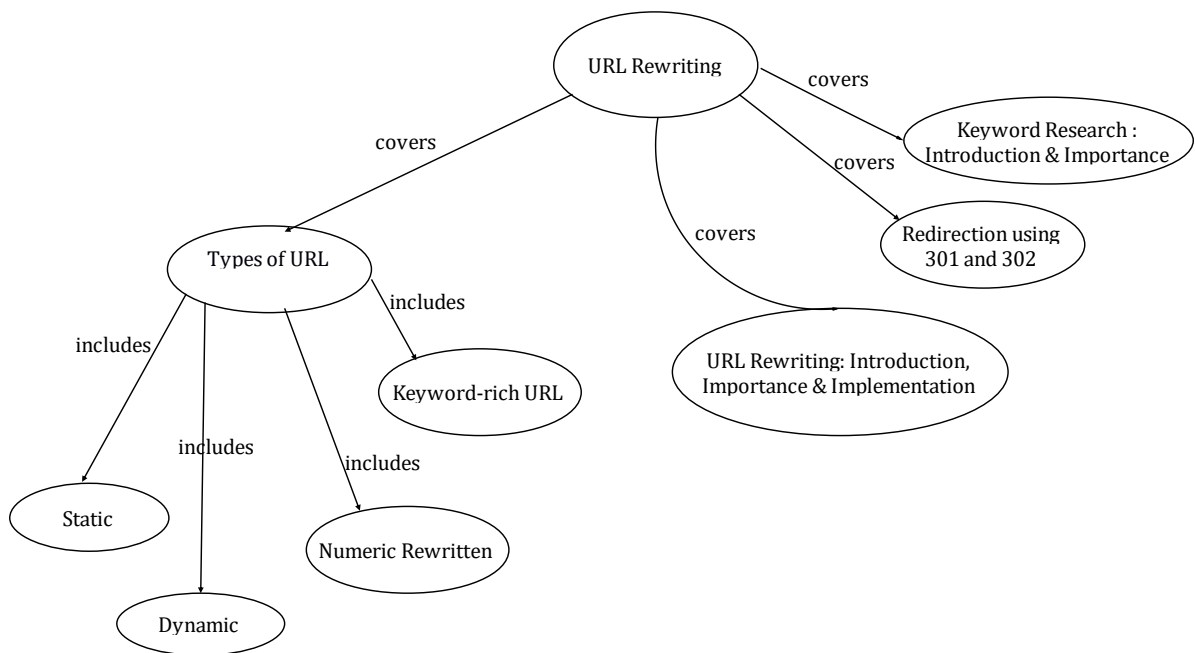
## Unit-1: Search Engine Optimization Basics



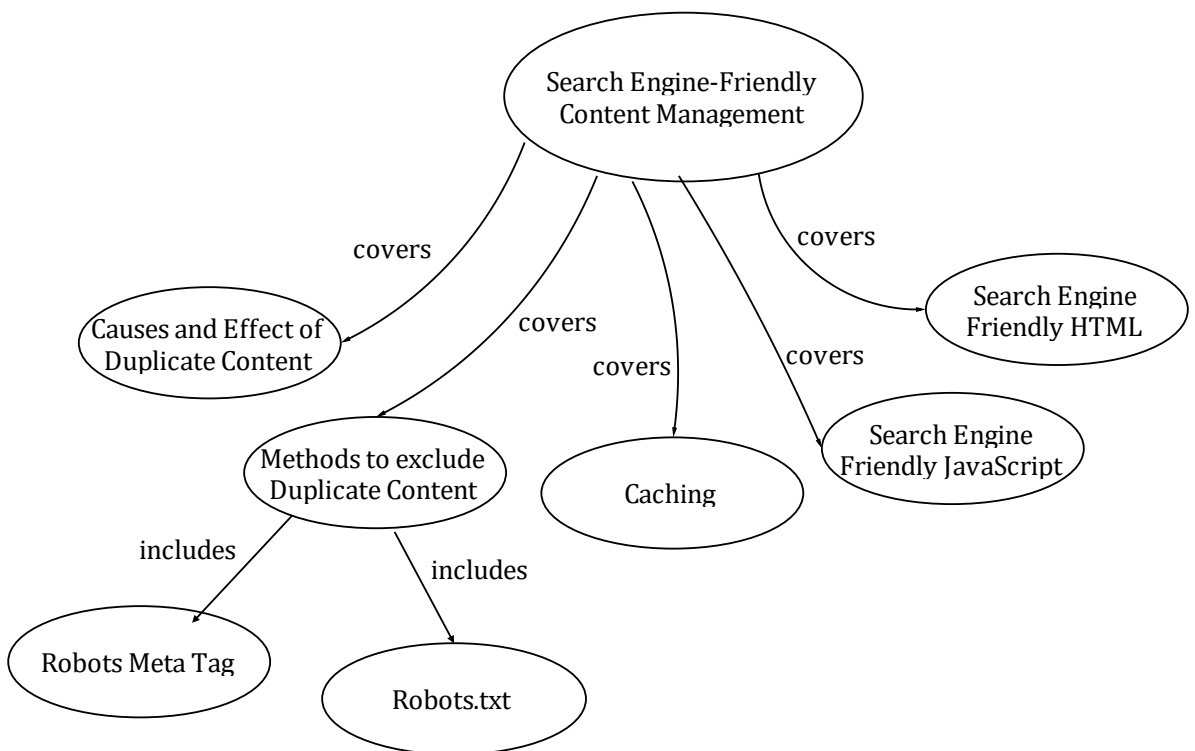
## Unit-2: Web Search Process



### Unit-3: URL Rewriting

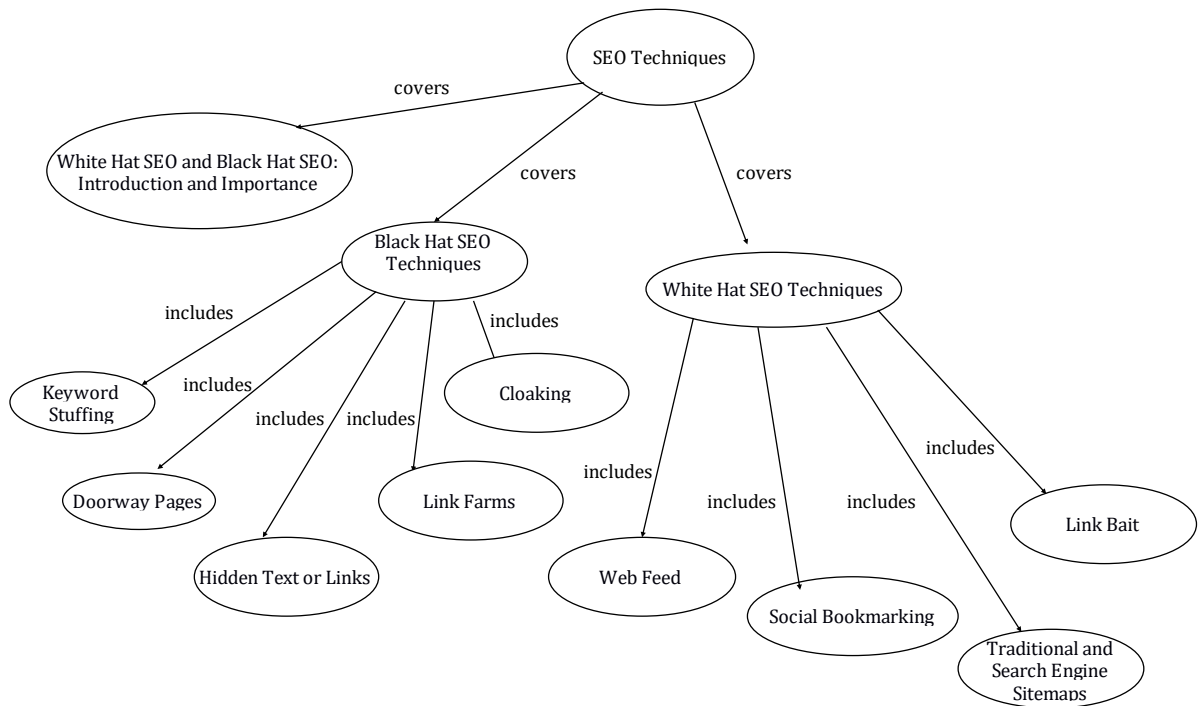


### Unit-4: Search Engine-Friendly Content Management





## Unit-5: SEO Techniques



## Unit-6: Foreign Language SEO

