

## Syllabus Break up

**Subject: Advanced Database Management System**

**Subject Code: 7CS6.1**

**Class: VII Sem.**

Unit	Topics to be covered	Lectures Required	Month in which topic will be covered	Date of Completion	Reason of not completing the task	E-contents used
1	Introduction to query, Query processing and it's various phases. Block diagram.	1	Aug. 2015	3Aug.	NIL	NPTEL, Youtube,
	Query optimization and it's types. Relational query processing and optimization.	2		4,5 Aug.	NIL	NPTEL, Youtube,
	System catalogues and plans. Query translations.	1		10 Aug.	NIL	NPTEL, Youtube,
	Translation of the queries into RA and TRC.	1		11 Aug.	NIL	NPTEL, Youtube,
	Query estimation and cost identification. Enumeration of alternative plans.	2		12,17 Aug.	NIL	NPTEL, Youtube,
2	Introduction of objects into the database system. Examples	1		18Aug.	NIL	NPTEL, Youtube,
	Structured data types and various operations performed on it. Encapsulation and ADT's inheritance.	2		19,24 Aug.	NIL	NPTEL, Youtube,
	ODI's and references for the queries. Database design for the ORDBMS.	1		25 Aug.	NIL	NPTEL, Youtube,
	Implementations and challenges for the object oriented databases.	1		26 Aug.	NIL	NPTEL, Youtube,
	Comparison of the RDBMS, OODBMS, ORDBMS.	1		31 Aug.	NIL	NPTEL, Youtube,
3	Introduction to parallel and distributed database systems. Architecture of parallel database systems.	1	Oct. 2015	5 Oct.	NIL	NPTEL, Youtube,
	Shared memory architecture and shared nothing architectures.	1		6 Oct.	NIL	NPTEL, Youtube,
	Parallel query optimization. Distributed database management. Distributed catalog.	1		7Oct.	NIL	NPTEL, Youtube,
	Distributed query processing and optimization. Updating and other operations performed on it.	1		12 Oct.	NIL	NPTEL, Youtube,
	Distributed transactions, Concurrency control and recovery management.	1		14 Oct.		NPTEL, Youtube,
4	Concept of security and protection in the DBMS. Authorization techniques for database and its importance.	1	19 Oct.	NIL	NPTEL, Youtube,	
	Access control strategies. Views of any database, levels of database access controls and requirements.	1	20 Oct.	NIL	NPTEL, Youtube,	
	Various kinds of attacks and their remedies regarding encryption.	2	26,27 Oct.	NIL	NPTEL, Youtube,	

	Multilevel relations and polyinstantiation.					
	Covert channels, DOD's Security. Issues related the security and the authorization.	1		28 Oct.	NIL	NPTEL, Youtube,
	Role of database administrator. Statistical database management and encryption.	1	Nov. 2015	2 Nov.	NIL	NPTEL, Youtube,
5	Introduction to the POSTGRES interfaces. Query extensions and variations.	1		3 Nov.	NIL	NPTEL, Youtube,
	Transaction management and storage strategies.	1		4 Nov.	NIL	NPTEL, Youtube,
	Indexing and optimization. XML. Examples, schema, transformations.	2		9,10 Nov.	NIL	NPTEL, Youtube,

**Name of the instructor:** Murli Manohar Sharma